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[Late December, 1926

The 931st

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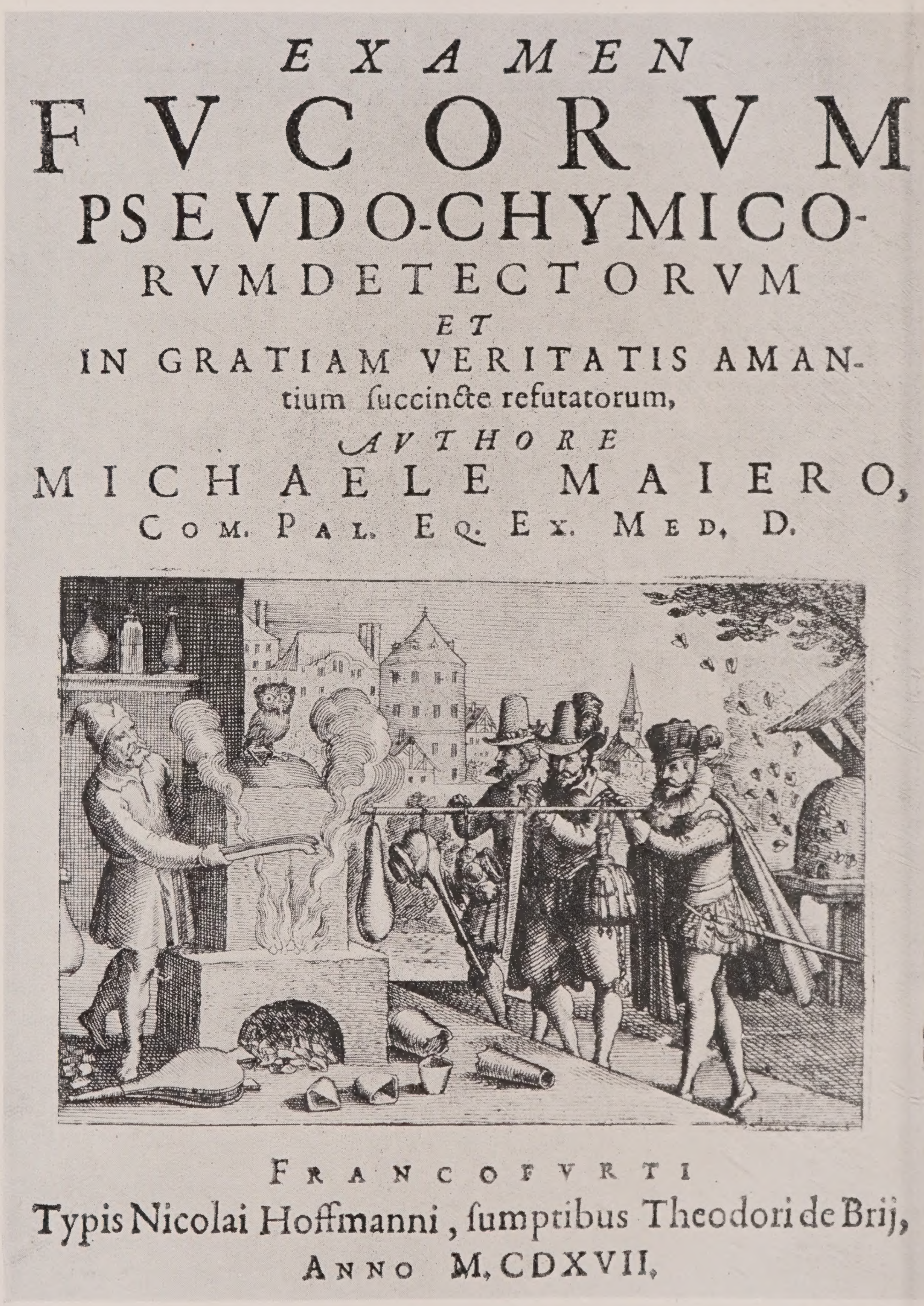

EXAMEN
FVCORVM
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MICHAELE MAIERO,
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FRANCOFVRTI
Typis Nicolai Hoffmanni, ſumptibus Theodori de Brij,
ANNO M,CDXVII,

SEE NO 53. MAIER, EXAMEN FUCORUM. 1617.

CAXTON HEAD CATALOGUE, No. 931.

Cables and Telegrams . TREGASKIS LONDON. . . .
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ASTRONOMY.

1 **Albumasar.** INTRODUCTORIUM IN ASTRONOMIAM octo continens libros partiales. Sm. 4to, a-h8 (h8 blank), woodcut on title, **Gothic letter,** woodcuts and ornamental initials, newly bound in a leaf of an antiphonal. **£5 10 0**

Jacobus Pentius for Melchio Sessa: Venice, September 5, 1506

⁂ Not in Brunet. Contains some very curious grotesque initial letters, and the printer's device at end.

2 **Albumasar.** DE MAGNIS CONJUNCTIONIBUS: annorum revolutionibus, ac eorum profectionibus: octo continens tractatus. Sm. 4to, A-L8 M6, **Gothic letter,** woodcuts, some leaves stained, old calf, rebacked. **£6 15 0**

Jacobus Pentius de Leucho for Melchior Sessa: Venice, May 31, 1515

⁂ Watt 15 j.

3 **Computus Novus Ecclesiasticus** totius fere astronomiae fundamentum pulcherrimum continens. Sm. 4to, **Gothic letter,** woodcut at end (Saint Anna and Saint Mary sitting with the Child between them), woodcut diagram (circle of dominical letters), contemporary manuscript notes, bound in a leaf from an early printed book over boards. **£12 15 0** *Johann Winterburg: Vienna for Bernard Melipola: Olmütz,* 1508

⁂ Houzeau and Lancaster, 13718; Denis, 21; Mayer, I, p. 157.

Rare. Not in the British Museum or Panzer (who quotes a very similar edition of the same date, but without mention of printer or place, "ad impensas Bernardi Meliss. de Olmuntz"). Denis suggests Andreas Stivor, Canon of Olmütz as author.

The object of this book is to enable ecclesiastics to find out when Easter will fall.

Johann Winterburg, or Winterburger, was the first printer in Vienna, whose name is known. He was born at Winterburg, not far from Kreuznach, in the Province of Sponheim. He printed from 1492 until 1519, when he died. Some authorities believe he was at work as early as 1482. He was acquainted with various Hungarian celebrities, and printed several books of Hungarian interest; there is also a tradition that he came into contact with Matthias Corvinus, King of Hungary, and an ardent book-collector, who died at Vienna in 1490.

ASTRONOMY—*continued.*

4 **Beyer** (Hartmann) QUAESTIONES NOVAE IN LIBELLUM DE SPHAERA Joannis de Sacro Busto. 12mo, pictorial woodcut initials and diagrams, Italic letter, errata leaf at end, printer's device on title and last leaf, red roan roxburghe. **£4 0 0**

Petro Brubachius: *Frankfurt*: 1549

⁂ An exceedingly rare edition, the earliest known to Poggendorff, *Handwörterbuch z. Gesch. d. exacten Wissenschaften*, being that of 1579, the earliest in the Bibliothèque Nationale Catalogue being that of 1551. There is no edition in Zeitlinger, Bibliotheca Chemico-Mathematica, and apparently no edition in Houzeau and Lancaster, the only copy which we have been able to trace of this edition is in the British Museum (Press Mark 533, a.2).

5 **Clavius** (Christophorus) IN SPHAERAM JOANNIS DE SACRO BOSCO commentarius, nunc iterum ab ipso auctore recognitus, et, multis ac variis locis locupletatus. Sm. 4to, 16 ll., 468 pp. numerous diagrams, old citron morocco, gilt three-line borders on sides, monogram repeated six times on back, Arms in gold on sides. **£5 10 0**

Dominicus Basa (at end: *Franciscus Zanettus*) *Rome* 1581

⁂ Houzeau and Lancaster 2678.

6 **Comets.** CAESIUS (Georgius) CATALOGUS, nuquam antea visus, omnium Cometarum secundum Seriem Annorum a Diluvio conspectorum, usque ad hunc praesentem post Christi Nativitatem 1579 annum, cum portentis seu eventuum Annotationibus, et de Cometarum in singulis Zodiaci Signis, Effectibus: ex quibus prodens lector posthac facillime de quovis Cometa judicare poterit, etc. 12mo, Italic letter, ornamental woodcut initials, contemporary blind stamped calf over wooden boards (dated on front cover 1579), three-line fillet borders enclosing inner borders of floral design, within the borders two-line fillet panels with small inner and outer corner ornaments, large diamond-shaped centre ornaments of floral design, back with raised bands and each compartment containing a small cinqfoil ornament, slightly repaired. **£7 10 0**

Valentinus Furmannus: *Nuremberg* 1579

⁂ FIRST EDITION. An exceedingly rare book. Not in the Royal Astronomical Society Catalogue, Poggesdorff, *Handwörterbuch z. Gesch. d. exacten Wissenschaften*, Allgemeine Deutsche Biographie, Bibliothèque Nationale Catalogue, or Zeitlinger, *Bibliotheca Chemico-Mathematica*, nor does it appear to be in Houzeau and Lancaster, *Bibliographie Astronomique*. The only copy which we have been able to trace being in the British Museum (Press Mark 8560, aa. 32). This is possibly the earliest printed catalogue of comets known; in any case, it is considerably earlier than any in the list given by Houzeau and Lancaster.

7 **Comets.** DUDITH (Andreas) DE COMETARUM SIGNIFICATIONE COMMENTARIOLUS . . . Addidimus D. Thomae Erasti eadem de re sententiam. Sm. 4to, old calf, roxburghe. **£1 12 0**

Peter Perna: *Basle*, 1579

⁂ Houzeau and Lancaster, 5612.

ASTRONOMY—*continued.*

8 **Comets.** MONTALVO (C. de) DISCURSO A LOS DOS COMETAS. [See below.] Sm. 4to, wrapper. **£8 10 0**

B. de Lorençana: *Granada* 1618

⁂ Collation: ¶, 8 leaves. Eight numbered leaves. Description: f 1 *a* (¶ 1 *a*): DISCVRSO / A LOS DOS. COME- / TAS QVE HAN PARECIDO / en Granada en el mes de Nouíembre de mil y / seyscientos y diez y ochos años. / REGVLADO CON LA CONIVNCCION / maxima de Saturno y Jupiter. Compuesto por el Licenciado / Christoual de Montaluo, Beneficiado de señor San / Pedro y San Pablo. / *AL DOCTOR DON FRANCISCO / de Ledesma, Arcediano de Campos, Dignidad de la San- / ta Yglesia de Palencia, Prouisor y Vicario Gene- / ral en el Arçobispado de Granada.* / [Rule] / [Woodcut] / [Rule] / CON LICENCIA. / Impresso en Granada, Por Bartolome de Lorençana, en la / calle del Pan. Año de 1618; f 1 *b* (¶ 1 *b*) COMISION. / . . . . *APPROBACION.* / . . . . LICENCIA; f 2 *a*-f 2 *b* (¶ 2 *a*-¶ 2 *b*): AL DOCTOR DON / Francisco de Ledesma, Archedia- / no de Campos, Dignidad en la / Santa Yglesia de Palencia, Pro- / uisor y Vicario General en / el Arçobispado de Granada; f 3 *a*-f 8 *a* (¶ 3 *a*-¶ 8 *a*): (Text).

OF EXCESSIVE RARITY, IF NOT UNIQUE. Not in the British Museum, Houzeau and Lancaster: *Bib. Astron.*, La Lande: *Bib. Astron.*, Carl: *Repert. d. Cometen-Astron.*, Salva, Heredia, Antonio, Gallardo, Ticknor Catalogue, Caillet: *Bib. des sciences occultes*, Royal Astron. Soc. Cat., or Gardner: *Bib. Astrol.*

Nothing appears to be known about the author, nor have we been able to trace anything else by him.

This little tract relates to the two comets which appeared in 1618, on which a large number of pamphlets were written in different parts of Europe (see Carl, *op. cit.*).

The author records many valuable facts about these comets, and seems to have been a careful observer for that period: he gives some date of astronomical data: *e.g.*, he tells us that the first comet appeared on the horizon of Granada 23° 12″ from Virgo; and that the total length was 52° 30″.

See facsimile of title on next page.

9 **Comets.** SNELLIUS (Willebrordus) DESCRIPTIO COMETAE, qui anno 1618 mense Novembri primum effulsit. Huc (*sic*) accessit Christophori Rhotmanni . . . descriptio accurata cometae anni 1585. Nunc primum a Will. Sn., R.F., in lucem edita. Sm. 4to, diagrams, contemporary limp vellum (back defective). **£1 15 0**

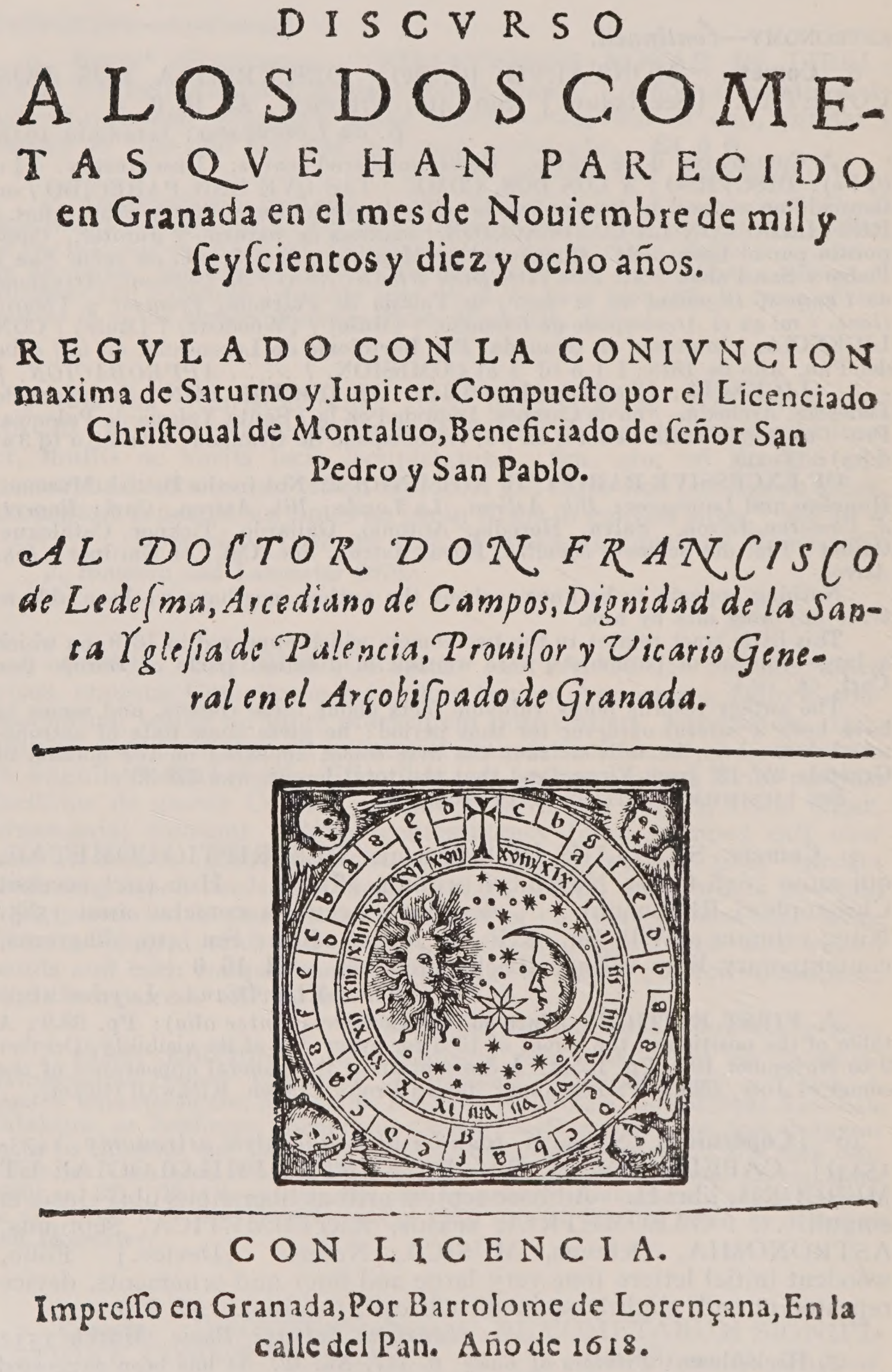
Ex Officina Elzeviriana: *Leyden* 1619

⁂ FIRST EDITION. Watt 867 f. Contents (*inter alia*): Pp. 88-9: A table of the position of the comet of 1585 for every day of its visibility (October 9 to November 10): Pp. 155-6: A description of the general appearance of the comet of July, 1596. Provenance: James Broun Craven, Kirkwall (ticket).

10 [**Copernicus** (Nicolaus, *founder of heliocentric astronomy*, 1473-1543)] CAPELLA (M. M. F.) DE NUPTIIS PHILOLOGIAE ET MERCURII, libri II. Ad haec septem artibus liberalibus libri ejusdem singuli. . . . GAEOMETRIA, sextus, ARITHMETICA, Septimus, ASTRONOMIA, Octavus, MUSICA, Nonus. [Device.] Folio, woodcut initial letters (one very large and fine) and ornaments, device repeated at end, slightly stained, half calf, repaired. **£2 5 0**

Henricus Petrus: *Basle*, *March* 1532

⁂ Heckethorn: *Printers of Basle*, p. 157, No. 12. It has been suggested that this book, which describes Venus and Mercury as revolving round the sun, gave Copernicus the hint which led to his great discovery. Capella lived about 500 A.D. (Thomas: *Dict. of Biog.*, p. 512).



DISCVRSO

A LOS DOS COMETAS QVE HAN PARECIDO

en Granada en el mes de Nouiembre de mil y ſeyſcientos y diez y ocho años.

REGVLADO CON LA CONIVNCION maxima de Saturno y Iupiter. Compueſto por el Licenciado Chriſtoual de Montaluo, Beneficiado de ſeñor San Pedro y San Pablo.

AL DOCTOR DON FRANCISCO de Ledeſma, Arcediano de Campos, Dignidad de la Santa Ygleſia de Palencia, Prouiſor y Vicario General en el Arçobiſpado de Granada.

CON LICENCIA.

Impreſſo en Granada, Por Bartolome de Lorençana, En la
calle del Pan. Año de 1618.

SEE NO. 8. MONTALVO.

ASTRONOMY—*continued.*

11 **Fine** (Oronce, *Mathematician*, 1494-1555) SPHAERA MUNDI, sive cosmographia quinque libris recens auctio et emendatis absoluta: in qua tum prima astronomiae pars, tum geographiae, ac hydrographiae, rudimenta pertractantur. Sm. 4to, numerous woodcuts and initial letters, upper joint a little worn. **£2 5 0**

Michel de Vascosan: Paris 1552

⁂ Houzeau and Lancaster 2379.

12 [**Fokkens** (Johann)] ΠΑΝΣΕΛΗΝΟΣ ΕΚΛΕΠΙΤΙΚΗ ΔΙΑΥΓΑΣΟΥΣΑ: id est dissertatio astronomica quae, occasione ultimi lunaris anni 1638 deliquii, manuductio sit ad cognoscendum: I. Statum Astronomiae, praesertim Lansbergianae; II. Novorum phenomenωn exortum et interitum. Autore Joanne Phocylide Holwarda. 16mo, 12 ll., 288 pp., diagrams, old calf, with the Arms of François Auguste De Thou (eldest son of Auguste de Thou) and monogram "A.G." (Auguste and Gasparde De Thou) on back (four times), with the book label of J. W. Six. **£6 15 0**

Idzardus Albertus for himself and Joannes Fabianus Theuring:
Franekerae, 1640 (1649)

⁂ Not in Brunet, Watt, British Museum, Zeitlinger, *Bibliotheca Chemico-Mathematica*, Poggendorff, *Biographisch-Literarisches Handwörterbuch zur Geschichte der exacten Wissenschaften*, Houzeau and Lancaster, *Bibliographie générale de l'astronomie*, Bibliothèque Nationale Catalogue, Royal Astronomical Society Catalogue, Ebert, Graesse, Georgi, Zedler, Nouvelle Biographie Générale, or Biographie Universelle.

GALILEI (GALILEO).

13 **System Cosmicum:** in quo Quatuor Dialogis, de Duobus Maximis Mundi Systematibus, Ptolemaico et Copernicano, utriusque rationibus Philosophicis ac Naturalibus indefinité propositis, disseritur. 8vo, engraved frontispiece with full-length portraits of Aristotle, Ptolemy, and Copernicus. Contemporary calf, one joint a trifle worn, *a fine copy, with the blank leaf bearing the initial "A" before title.* **£2 10 0**

Thomas Dicas: London 1663

⁂ Not in the Royal Astronomical Society's Catalogue.

14 **Opere di Galileo Galilei, Linceo, Nobile Fiorentino,** già lettore delle matematiche nelle università di Pisa, e di Padova, di poi Sopra ordinario nello studio di Pisa, primario filosofo, e matematica del Serenissimo Gran Duca di Toscana. In questa nuova editione insieme raccolte, e di varii trattati dell' istesso autore non più stampati accresciute. Al Serenissimo Ferdinando II., Gran Duca di Toscana. 4to ($8\frac{13}{16}$ by $6\frac{5}{16}$ in.). Frontispiece portrait, folding plate, diagrams, some leaves browned, contemporary vellum. **£3 10 0**

Per gli H. H. del Dozza: Bologna 1656

⁂ Zeitlinger. *Bib. Chemico-Mathematica*, No. 1435-1546. Edited by Carlo Manolesi. THE FIRST COLLECTED EDITION OF GALILEO'S WORKS.

ASTRONOMY: GALILEI—*continued.*

15 **Sidereus Nuncius,** magna longeque admirabilia spectacula pandens, suspiciendaque proponens unicuique, praesertim vero philisophis, atque astronomis, quae a Galileo Galileo, patritio Florentino, Patavini gymnasii publico mathematico perspicilli nuper a se reperti beneficio sunt observata in lunae facie, fixis innumeris, lacteo circulo, stellis nebulosis, apprime vero in quatuor planetis circa Jovis stellam disparibus intervallis, atque periodis, celeritate mirabili circumvolutis; quos, nemini in hanc usque diem cognitos, novissime auctor deprehendit primus; atque Medicea Sidera nuncupandos decrevit. 12mo (7⅛ by 4 7/16 in.), 173 pp., 4 plates, numerous diagrams, manuscript pencil notes, half green morocco. **£3 10 0**

James Flesher for Cornelius Bee: *London* 1653

⁂ At p. 51 occurs a second title-page: "Joannis Kepleri, Sae. Cae. Mis. Mathematici, Dioptrice: seu, Démonstratio eorum quae visui et visilibus propter conspicilla non ita pridem inventa accidunt. Praemissae epistolae Galilaei de iis, quae post editionem Nuncii Siderei ope perspicilli, nova et admiranda in coelo deprehensa sunt. Item, Examen praefationis Joannis Penae, Galli, in optica Euclidis, de usu optices in philosophia. *James Flesher: London*, 1653. Zeitlinger, *Bib. Chemico-Math.*, No. 8223 (quoting the first edition of 1610). "It contains the first-fruits of Galileo's astronomical investigations with his newly invented telescope, which enabled him to discover mountains and valleys on the surface of the moon (hitherto considered to be smooth) also that the moon was not self-luminous, but only reflected the light received by the sun. The most important discovery it contains, however, is that of the four satellites of Jupiter, called by him Medicean Stars, in honour of the family of his protector. Their different positions at different times induced him finally to accept the Copernican theory. He also found the Milky Way to be composed of countless separate stars, etc.

16 **Frisi** (Paolo) ELOGIO DEL GALILEO. 8vo, contemporary vellum. **£1 0 0** *Federico Agnelli*: *Milan* 1775

⁂ Not in the British Museum or Bibliothèque Nationale Catalogue.

17 **Sarsius** (Lotharius) LIBRA ASTRONOMICA AC PHILOSOPHICA qua Galilaei Galilaei opiniones de cometis a Mario Guiducio in Florentina expositae, atque in lucem nuper editae, examinantur. Sm. 4to, diagrams, old Italian decorative boards. **£3 3 0**

Marcus Naccarinus: *Perugia* 1619

⁂ FIRST EDITION. Brunet V, 141. Attributed to Orazio Grassi Galileo answered it in his *Saggiatore.*

ASTRONOMY—*continued.*

18 **Gemma** (Reinier, *Frisius*, 1508-1555) DE PRINCIPIIS ASTRONOMIAE & COSMOGRAPHIAE, Déq. vsu Globi ab eodem editi. Item de Orbis diuisione, & Insulis, rebusq. nuper inuentis. 12mo, Italic letter, woodcut of globe on title, woodcut initials, full-page woodcut at p. 12, mathematical diagrams, Steelsius's device at end, original limp vellum, with end papers consisting of fragments from a fourteen century French chronicle. **£6 5 0**
Joannes Graphaeus for Joannes Steelsius: *Antwerp* 1553

⁂ 231 pp. The edition of 1557 is the earliest known to Watt. Bib. Nat. Catalogue, lviii, 979. Not in Bibliotheca Chemico-Mathematica. Reference to America at p. 21, chapter 20, "De insulis nuper inventis." Chapter 30, "De America." At the end there is a catalogue of fixed stars giving a magnitude, right ascension, and declination.

19 **Geography.** DIONYSIUS AFER. COSMOGRAPHIA [Translated into Latin prose by Antoni Beccaria]. Sm. 4to, a-d8e6, Roman letter (and one work in Greek), 26 lines, marginal notes, woodcut initial letters on a black ground, heading (4 lines) in red, without headlines, page numerals or catchwards, old boards, some edges uncut.
£37 10 0 *Franz Renner* (*4th press*): *Venice* 1478

⁂ Hain *6227. Proctor 4173. B.M.C., V, p. 195.

Second edition of the first Latin prose translation: the first edition appeared in 1477. First book issued from Renner's fourth press recorded by Proctor. The B.M.C. suggests that the marginalia were printed after the text as the inking is not always uniform. This copy is 5 mm. taller than that in the British Museum (George III), measuring 205 mm. The type is facsimiled by the Gesellsch. f. Typenkunde 1913 plt. 556 and the Woolley Photographs 152.

The career of Franz Renner, of Heilbronn, a printer who did much fine work, falls into several well defined sections. In 1471 and 1472 he worked without partners, using a delicate Roman fount, although his output was entirely theological and scholastic. Very possibly his ventures failed to find a market for this reason; at any rate, by 1473 Renner is associated with Nicolaus of Frankfurt, whose share in the business is much more likely to have been financial than practical. Still devoting itself exclusively to the same class of literature, the new firm reverted at once to the more usual Gothic letter, and for about five years seems to have done fairly well. Then at some time in 1477, Petrus de Bartua, who is otherwise unknown, takes the place of Nicolaus in the colophons, about half a dozen editions being attributable to this partnership. Finally, in the course of 1478, Renner is once more at work on his own account with different types, venturing at first on a little geography and astronomy reprinted from Maler and Ratdolt's editions with material discarded by them just previously, but soon goes back to theology and service books, at which he continues, with apparent success, until 1483. During this period he habitually put his surname Renner into his colophons, whereas previously he had styled himself "Franciscus de Hailbrun" only. By 20 May, 1487, he was back in Heilbronn, if he may be identified with the Franz Renner mentioned in an official document of that date. (M. von Rauch: *Urkundenbuch d. Stadt Heilbronn*, vol. 2, p. 131.) It is curious to note that Renner consistently omits to specify the month and day of the completion of his books. The type, which measures 109 millimetres to the 20 lines, is apparently indistinguishable from that of Maler and Ratdolt, some of the initial letters and the Greek type are also identical. We do not know exactly under what circumstances Renner obtained possession of the Maler-Ratdolt material, and reprinted Maler-Ratdolt tracts; possibly Nicolaus of Frankfurt, who commissioned a breviary from Maler's firm a little earlier in the same year (1478), forms a connecting link. (B.M.C. *Incunabula*, Vol. V, pp. xii, 190, 191).

The author is variously named Dionysius Afer, Alexandrinus, and Periegetes: he wrote at the end of the third century in Greek hexameters, and drew most of his geography from Erathosthenes.

ASTRONOMY—*continued.*

20 **Gravitation.** [PHILPOT (Thomas)] A PHYLOSOPHICAL ESSAY, treating of the most probable cause of that grand mystery of nature, the flux and reflux, or flowing and ebbing of the sea. Sm. 4to, wrapper, lower edges uncut. **£4 0 0**
T.M. [? Thomas Milbourn] for T[homas] Passinger [I]: London 1673

⁂ Plomer: *Dict. of Printers*, 1641-67, p. 145, and 1668-1725, p. 205.

21 **Horology.** CLAVIUS (Christophorus) FABRICA ET USUS INSTRUMENTI ad HOROLOGIORUM descriptionem peropportuni. Accessit ratio describendarum horarum a meridie et media nocte exquisitissima, et NUNQUAM ANTEHAC IN LUCEM EDITA. Sm. 4to, 2 ll., 151 pp., diagrams, contemporary vellum. **£2 10 0**
Title: *Bartholomaeus Grassius: Rome,* 1586
At end: *Jacobus Ruffinellus: Rome.* N.D.

22 **Horology.** S[MITH] (J.) HOROLOGICAL DIALOGVES. In Three Parts shewing The Nature, Use, and right Managing of Clocks and Watches: with an Appendix Containing Mr. Ovghtred's Method of Calculating of Numbers. The whole being a work very necessary for all that make use of these kind of movements. Sm. 8vo, original sheep. **£1 10 0** *Jonathan Edwin: London* 1675

⁂ FIRST EDITION.

23 **Huygens** (Christianus) COSMOTHEOROS, sive De Terris Coelestibus, earumque ornatu, conjecturae ad Constantinum Hugenium Fratrem. Guilielmo III, Magna Britanniae Regi, a secretis. 4to, SEVERAL ENGRAVED FOLDING PLATES showing the movements of the Solar system, calf roxburghe. **£1 0 0**
Adrian Moetjens: Hague 1699

⁂ Not in Brunet. Huygens was a famous Dutch astronomer and geometer, and friend of Newton, who called him "Summus Hugenius." The above posthumous work was dedicated to this elder brother, who, it will be seen by the title, was secretary to William III of England. "Un dernier ouvrage de lui, fort singulier. . . ."—Maurice.

24 **Hyginus.** POETICON ASTRONOMICON. 4to, large woodcut on title and numerous cuts in text, printer's device of cat and mouse at end, modern brown levant morocco, plain inside gold dentelles, t.e.g. **£5 0 0** *Melchior Sessa: Venetiis, 15 Sept.,* 1512

⁂ This edition is exceedingly rare, as the Prince d'Essling is only able to quote the copy in Berlin (I 289).

25 **Kepler** (J.) CAVALIERI (B.) NUOVA PRATTICA ASTROLOGICA, di fare le direttioni secondo la via rationale, e conforme ancora al fondamento del Kepplero per via di logaritmi. [With the *Appendice.*] 2 vol., 16mo, engraved title, modern boards, roan lettering pieces. **£2 0 0** 1639-40

ASTRONOMY—*continued.*

26 **Moon.** HEVELIUS (Joh.) SELENOGRAPHIA: Sive, Lunae descriptio. Folio, engraved title and many engraved plates, portrait of author wanting, late 17th century English red morocco, border formed by broad dentelle lines intersecting at corners decorated with elaborate arabesque ornaments, the centre panel filled with interlacing floriate scrolls, dots, stars, etc., gold-tooled back and edges of boards, g.e., book label "The Gift of Mr. Thomas Heatley, Citizen and Iron-Monger of London, to the Mathematical School in Christ's-Hospital. Anno Dom. 1700." A MAGNIFICENT BINDING OF VERY DELICATE DESIGN. **£30 0 0**

Typis Hünefeldianis: *Gedani* [*Dantzig*] 1647

⁂ J. Hevelius, 1611-1687, a famous astronomer and native of Dantzig. The first important book on the Moon, including over 100 engraved plates covering every aspect of the satellite.

27 **Moxon** (Joseph) A TUTOR TO ASTRONOMIE AND GEOGRAPHIE. Or an Easie and Speedie way to know the use of both the Globes, celestial and terrestrial. Sm. 4to, diagrams, calf. **£1 0 0**

1670

28 **Navigation.** SINCLAIR (George) THE PRINCIPLES OF ASTRONOMY and Navigation: or, A Clear, Short yet Full Explanation, of all Circles of the Celestial, and Terrestial Globes, and of their Uses, being the whole *Doctrine of the Sphere,* and Hypotheses to the Phenomena of the *Primum Mobile.* To which is Added a Discovery of the Secrets of Nature, which are found in the *Mercurial Weather-Glass,* &c. As also A New Proposal for *Buoying up a Ship* of any Burden from the Bottom of the Sea. 12mo, old mottled calf. **£7 10 0**

Printed by the Heir of Andrew Anderson: *Edinburgh* 1688

29 **Navigation.** VOSS (Isaac) VARIARUM OBSERVATIONUM LIBER. 4to, woodcut diagrams, contemporary calf, clean copy. **£1 10 0** *For Robert Scott*: *London* 1685

⁂ FIRST EDITION. Contents include chapters on Shipbuilding, Voyage to Japan and the East Indies, Longtitude, Orbit of the Moon, and some unscientific subjects.

30 **Newton** (Sir Isaac) ROBINSON (Bryan) A DISSERTATION ON THE AETHER OF SIR ISAAC NEWTON. Sm. 8vo, folding plate, cobb boards. **£2 0 0**

For Charles Hitch: *London* 1747

⁂ Gray No. 227.

31 **Origanus** (David) ANNORUM PRIORUM 30 INCIPIENTIUM ab anno Christi 1595, et disinentium in annum 1624, ephemerides Brandenburgicae coelestium motuum et temporum; summa diligentia in luminaribus calculo duplici Tychonica et Prutenico, in reliquis planetis Prutenico seu Copernicaeo elaboratae . . . et accomodatae horizonti Francofurtano ad Viadrum . . . Sm. 4to, diagrams, original calf. **£4 0 0**

Ioannes Eichorn for the author: *Frankfort-on-the-Oder,* 1609

⁂ FIRST EDITION. British Museum Catalogue "E.," xxxii, p. 105. PROVENANCE: [—] Dundas Viscount Melville (armorial bookplate: Franks 9287-9288).

ASTRONOMY—*continued.*

32 **Potter** (Charles) ΠΥΘΑΓΟΡΑΣ ΜΕΤΕΜΨΥΧΟΣ, sive theses quadragesimales in Scholis Oxonii publicis Mart. V. et XXVI. pro forma discussae, A.D., MDCXLIX/L, in quibus ad mentem imprimis Pythagoraeorum asseritur quod, Coeli sint fluide; terra moveatur; terra centrum universi non sit; luna sit habitabilis; radius luminosus sit corporeus; sol sit flamma. 16mo, 3 ll., 137 pp., 8 ll., wrapper. **£2 0 0** *H. H. for R. Davis: Oxford* 1651

⁂ FIRST EDITION.

33 **Seller** (John) A POCKET BOOK, containing severall choice Collections in Arithmetick, Astronomy, Geometry, Surveying. . . . By John Seller, Hydrographer to the King. Sm. 8vo ($5\frac{1}{2}$ by $3\frac{3}{8}$ in.), engraved title and 86 leaves, with the text engraved on one side only, and containing diagrams, maps (including America), etc., and two volvelles, polished calf extra, inside dentelles, g.e. by F. BEDFORD, from the Huth Library, FINE COPY, RARE. **£8 10 0**

And are to be sold by Iohn Seller at his Shopp at the Hermitage, Wapping [1685]

34 **Solar Eclipse.** BALDE (Jacobus) DE ECLIPSI SOLARI anno MDCLIV, die XII. Augusti, in Europa, a pluribus spectata tubo optico: nunc iterum à Jacobo Balde, è Societate Jesu, tubo satyrico perlustrata libri due. 16mo (130 by 76 mm.), satirical engraved title-page and two other plates and facetious errata leaf at end. Contemporary vellum over thin wooden boards, with clasps and catches, with the Mexborough bookplate. **£3 15 0**

Lucas Straub for Johann Wagner: Munich 1662

⁂ FIRST EDITION. Watt, Bib. Britannica, 65*r*, pp. 11-127. Dialogus inter Alphonsum Persium Pernumiam mathematicum, et Didacum Cyrisatum Poëtam, disputantes de eclipsi anni 1654, deque siderum in haec inferiora influxu: pp. 128-216. De Eclipsi Solari Anni MDCLIV Liber II exhibens ipsum poema: pp. 218-220. Periochae, Paris. II Antecedentia eclipsis (omens and portents), etc.

35 **Solar System.** FERGUSON (J.) A PLAIN METHOD OF DETERMINING the parallax of Venus, by her transit over the Sun, and from thence, by analogy the parallax and distance of the Sun, and of all the rest of the planets. Sm. 4to, folding plates, wrapper. **£1 10 0**

For the Author: London 1761

36 **Solar System.** FLORAVANTI (F.) L'ABITATORE DEL SOLE, ovvero Discorsi Fisici, e Morali fatti ad un Curioso, in due Colloqui, ne'quali so provi, le Stelle essere alcune Soli, ed altre, abitate da differenti Creature: e nel descrivere la loro vita, e costumi, so presenta un modello all'Uomo, Come doveria vivere, per divenire felice. 8vo, contemporary English red morocco, broad dentelle borders of thistles and acorns, large centre ornament with leafy scrolls in top and bottom spaces, gold-tooled back and edges of boards, inside gold dentelles, marbled end paper. **£2 0 0** *J. Chrichley: London* 1743

ASTRONOMY—*continued.*

37 **Ward** (Seth, *Bishop of Salisbury,* 1617-1689) ASTRONOMIA GEOMETRICA: ubi Methodus proponitur qua Primariorum Planetarum Astronomia, sive Elliptica, sive Circularis, possit geometricè absolvi. Sm. 8vo, title in red and black, numerous diagrams, old calf. **£2 15 0** *James Flesher: London* 1656

⁂ D.N.B., xx, 794a. This book sets out Bishop Ward's theory of planetary motion, which is briefly this: That the radius vector of any planet moves round the superior focus of its orbit with a fixed angular velocity. This is nearly true for orbits of small eccentricity. Ward's theory was the last which found general acceptance, before the final settlement of Kepler's Second Law of Uniform Description of Aréas. Watt 949.*w*.

CHEMISTRY.

38 **Aerated Waters.** HERMANN-LACHAPELLE (—) and GLOVER (Ch.) DES BOISSONS GAZEUSES, aux pointes de vue alimentaire, hygiénique et industrielle: guide pratique du fabricant et du consommateur. Troisième édition, entièrement refondue, considerablement augmentée et illustrée de 100 dessins. La. 8vo, numerous wood engravings, brown morocco, roxburghe, uncut. **12/6** *Paul Dupont: Paris,* 1867

⁂ Not in Vicaire, Bib. Gastron., who quotes two other editions.

39 **Agrippa** (Henricus Cornelius) HENRICI CORNELII AGRIPPAE AB NETTESHEYM a consiliis et archivis inditiarii sacrae Caesarae Majestatis: De occulta philosophia libri tres. Henricus Cornelius Agrippa [Portrait] Nihil est opertum quod non reveletur, et occultum quod non sciatur. Matthaei X. Cum gratia et privilegio Caesareae Majestatis ad triennium. Folio ($11\frac{11}{16}$ by $7\frac{3}{4}$ in.), 6 ll., 362 pp. (aa, a-q, $_6$, r$_8$, s.z, A.G, $_6$). G6 a blank leaf, numerous woodcuts anddiagrams, green morocco. **£5 10 0** [*Johann Soter: Cologne*], *July,* 1533

⁂ Caillet, 14. A queer mixture of science and superstition: chapters on poisons, hypnotism (de fascinatione), music, etc.

40 **Air.** SEHNER (Johann Friedrich) PROPOSITIONES QUAEDAM PHYSICAE DE AERE. Sm. 4to, wrapper. **12/6** *Erhard: Tubingen* [1761]

⁂ RARE. Not in the British Museum.

41 **Antimony.** VALENTINUS (Basilius) THE LAST WILL AND TESTAMENT OF BASIL VALENTINE, Monke of the order of St. Bennet, which, being alone, he hid under a table of marble, behind the high-altar of the cathedral church, in the imperial city of Erford: leaving it there to be found by him whom God's providence should make worthy of it. To which is added two treatises: The first declaring his manual operations: The second shewing things natural and supernatural. [Translated by J. W.] Never before published in English. 12mo, 12 ll., 534 pp., contemporary calf, with the bookplate of Sir Joseph Copley, Bart. **£12 10 0** *S. G. and B. G. for Edward Brewster: London* 1671

⁂ Valentinus was the discoverer of antimony.

CHEMISTRY—*continued.*

42 **Antimony.** VALENTINUS (Basilius, *discover of antimony*) KERCKRING (Theodor, *M.D., friend of Spinoza*) COMMENTARIUS IN CURRUM TRIUMPHALEM ANTIMONII Basilii Valentini, a se Latinitate donatum. 16mo, engraved title by ROMEYN DE HOOGHE. manuscript notes and scoring, old sheep. **£4 0 0** *Hendrick Wetstein: Amsterdam* 1682

⁂ Ferguson I, 78; Caillet II, 354; not in Bolton.

43 **Bibliography.** FERGUSON (John, *Regius Professor of Chemistry in the University of Glasgow*) BIBLIOTHECA CHEMICA: A Catalogue of the Alchemical, Chemical and Pharmaceutical Books in the Collection of the late James Young of Kelly and Durris, Esq., LL.D., F.R.S., F.R.S.E. 4to, two portraits of the owner, printed on hand-made paper, 2 vol., original brown buckram, gilt, rough edges. **£16 10 0**

Printed for Private Distribution. James Maclehose & Sons: Glasgow 1906

⁂ Inscription: "B. B. MacGeorge, Esq., from the Author, 7th of April, 1906."

"In endeavouring to construct the catalogue of such a library as this, which labour I undertook at Dr. Young's request, I considered who were likely to consult it and how best it could be made serviceable for the study of the history of chemistry. The persons who may possibly refer to it—besides those who actually use the library itself—are, in the first place, librarians, bibliographers, booksellers, and collectors of this branch of literature, if there be any such, and, in the second, students.

"For the convenience of the first group, the catalogue has been constructed on a more liberal and elaborate scale than would have been necessary, had the object been merely to make a list of short titles sufficient to serve as a register for the library. Instead of that the titles are reproduced in full, the particular copy is described, and any peculiarities it may possess noted, other editions are enumerated, and when practicable, an account of them, too, is added, which in many cases has been possible by inspection of the books themselves. To the different classes of bookmen these details may be convenient for reference, and for comparison with other copies. The literature is scarce, obscure and almost unknown, and, so far as my experience goes, while there are lists and enumerations of alchemical books, there is no bibliography of any part of it.

"More particularly intended for the student, who is concerned with the contents rather than the externals of the books, are the notes which certain biographical and descriptive details and discuss doubtful or disputed points of chronology, authorship, and other matters. The authors of most of these books are strangers to this country, and are but little remembered, or thought of, in their own. Some of them, however, were amongst the foremost men of their day, conspicuous by their lives, learning, discoveries and writings. It seemed desirable, therefore, in carrying out the plan I had drawn up, to give the student some notion of the position and authority of the different writers so far as lay in my power, to refer to the questions which have arisen about them and their writings, and to the criticisms and judgments which have been passed upon them." *Introduction*, pp. xvi-xvii.

CHEMISTRY—*continued.*

44 **Boyle** (Robert, *F.R.S.,* 1627-1691) THE SCEPTICAL CHYMIST: or chymico-physical doubts and paradoxes, touching the spagyrist's principles commonly called hypostatical, as they are wont to be proposed and defended by the generality of ALCHYMISTS. 12mo, pp. 243/244 inserted from another copy (margins cut), lacks last blank, old calf, rebacked. **£16 0 0**

J. Cadwell for J. Crooke: *London* 1661

⁂ FIRST EDITION. Zeitlinger, 6426. EXCEEDINGLY RARE. Not in Ferguson (who describes the edition of 1680), Bolton (who cites an edition, Oxford, 1661, which, however, he does not appear to have seen, as he does not give a collation), the British Museum, Poggendorff, or Caillet.

Mr. Zeitlinger describes a copy which had a second title (not in this copy) reading: *The sceptical chymist: or chymico-physical doubts and paradoxes, touching the experiments whereby vulgar spagyists are wont to endeavour to evince their salt, sulphur and mercury, to be the true principles of things. Printed for J. Crooke*, 1661.

"In his *Sceptical chymist* he criticises the Aristotelian and alchemistic elements, which were still accepted by many of the iatro-chemical age. He enunciated the axiom that only what can be demonstrated to be undecomposable constituents of bodies are to be regarded as elements. . . With a far-seeing glance he looked forward to the discovery of a much greater number of elements than was at that time assumed, at the same time contending that many of the substances then held to be elementary were not really so . . . Boyle was the first to state with perfect clearness that a chemical compound results from the combination of two [or more] constituents, and that it possesses properties totally different from either of its constituents alone, thus enabling him to draw a sharp distinction between mixtures and chemical compounds." (E. v. Meyer).

45 **Boyle** (Robert, *F.R.S.,* 1627-1691) EXPERIMENTS, NOTES, etc., about the mechanical origine or production of divers particular qualities: among which is inserted a discourse of the imperfection of the chymist's doctrine of qualities; together with some reflections upon the hypothesis of alcali and acidum. (Of the mechanical origine of heat and cold; the mechanical production of tasts, odours, volatility, fixtures (inertia), corrosiveness; of which mechanical causes of chymical precipitation; the mechanical production of magnetism, of electricity). 12mo, contemporary calf. **£7 10 0**

E. Flesher: *London* 1675

⁂ Ferguson I, 120.

47 **Brewing.** ACCUM (Frederick) A TREATISE ON THE ART OF BREWING, exhibiting the London practise of Brewing Porter, Brown Stout, Ale, Table Beer, and various other kinds of Malt Liquors. 8vo, coloured engraved frontispiece and engraved title with coloured diagram by W. Read. Original boards, printed label on back. **£1 10 0** *Longman* [*etc.*]: *London* 1821

⁂ SECOND EDITION, with the additional plate.

CHEMISTRY—*continued.*

47 **Distillation.** FRENCH (John) THE ART OF DISTILLATION: or, A Treatise of the Choicest Spagyrical Preparations, Experiments, and Curiosities performed by way of Distillation. Together with the Description of the choicest Furnaces and Vessels used by Ancient and Modern Chymists. And the Anotomy (*sic*) of Gold and Silver, with the Chiefest Preparations and Curiosities thereof; together with their Virtues. . . . To which is added Calcination and Sublimation: in Two Books. As also, The LONDON DISTILLER, exactly and truly shewing the way (in words at length, and not in mysterious Characters and Figures) to draw all sorts of Spirits and Strong-Waters; Together with their Virtues, and other excellent waters. Sm. 4to, woodcut initials and ornaments, numerous WOODCUTS OF CHEMICAL APPARATUS, slightly stained, contemporary calf, rebacked. **£4 0 0**
E. Cotes for T. Williams: *London* 1664

⁂ FIRST EDITION OF THE BOOKS ON CALCINATION AND SUBLIMINATION. D.N.B. vii, 691. Hazlitt, Collections IV, 41. Ferguson. Bib. Chemica. I, 293. Chem. Soc. Cat. 66.

48 **Gas Light.** HEROIC EPISTLE (An) TO MR. WINSOR, the Patentee of the Hydro-Carbonic Gas Lights, and Founder of the National Light and Heat Company. 4to, wrapper. **£5 0 0**
For R. Spencer: *London* 1803

⁂ FIRST EDITION. Watt. (Subjects, *s.v.* "Winson [Winsor] Mr.") Frederick Albert Winsor (1763-1830), one of the pioneers of gas-lighting, was born in Brunswick; he gave lectures on gas-lighting at the Lyceum Theatre in 1804; he also obtained a patent for an "improved oven" for extracting "inflammable air," etc.; in 1807 he illuminated a part of one side of Pall Mall with gas, which was the first time such street lighting was tried in London, and raised nearly £50,000 for a projected "New Patriots Imperial and National Light and Heat Company"; this company met with some opposition and Sir Walter Scott observed that its promoter must be a madman to expect to light London with smoke. In 1815 he went to Paris, and in 1817 he lit up the Passage des Panoramas with gas, and afterwards the Luxembourg and Odéon Arcade.

49 **Gas Light.** ACCUM (Friedrich Christian A.) A PRACTICAL TREATISE ON GAS-LIGHT; exhibiting a summary description of the Apparatus and Machinery best calculated for illuminating Streets, Houses, and Manufacturies with Carburetted Hydrogen, or Coal-Gas. 8vo, seven coloured plates (two folding) of apparatus, ornamental gas-brackets, etc. Contemporary polished calf, gilt. **£3 15 0** *G. Hayden for R. Ackermann* [*etc.*]: *London* 1815

⁂ FIRST EDITION. THE EARLIEST PRACTICAL TREATISE ON THIS SUBJECT, to the publication of which was largely due the prompt adoption of this mode of lighting in London and other large cities. D.N.B., I, p. 57. Cripps, *The Earliest Works on Gas Lighting*, p. 11.

50 **Gas Light.** ACCUM (F. C. A.) A PRACTICAL TREATISE. [*Another copy.*] 8vo, original boards, with label uncut. **£4 15 0**
1815

CHEMISTRY—*continued.*

51 **History** (Chemical) BORCH (Oluf) OLAI BORRICHII, MEDICII REGII, et in Academia Hafn. Prof. Pul., de orto et progressu chemiae dissertatio. Sm. 4to, errata leaf at end, leaves slightly browned, wrapper. **£2 5 0**

Matthias Godicchen for Peer Haubold: *Copenhagen* 1668

*** FIRST EDITION. Ferguson, *Bib. chem.*, I, 119. One of the earliest histories of CHEMISTRY extant.

52 **Lavoisier** (Antoine Laurent) TRAITE ELEMENTAIRE DE CHIMIE, présenté dans un ordre nouveau et d'aprés les découvertes modernes; avec figures: par M. Lavoisier, de l'Académie des Sciences, de la Sociétés d'Agriculture de Paris et d'Orleans, de la Société Royale de Londres, de l'Institut de Bologne, de la Société Helvétique de Basle, de celles de Philadelphie, Harlem, Manchester, Padoue, etc. [*Ornament.*] 2 vol., sm. 8vo, folding plates and tables, contemporary marbled sheep. **£10 10 0**

Cuchet: *Paris*, 1789

*** COLLATION: Vol. I: a b^8 c^6 A—V^8 X^1, and 2 folding tables; Vol. II: 4 leaves (X 2—8) ^{7} Y—Ss^8, 13 folding plates. FIRST EDITION.

Antoine Laurent Lavoisier, an illustrous French scientist, and one of the founders of modern chemistry. In 1775 he announced that calcination and combustion are the results of a "highly respirable gas" (oxygen) and combustible matter. This book is a summary of Lavoisier's new system of chemistry.

53 **Maier** (Michael, *Graf*) EXAMEN FUCORUM PSEUDO-CHYMICORUM detectorum. Sm. 4to, vignette on title, slightly browned, ornamental boards. **£12 10 0**

Nicolas Hoffmann for Theodore de Bry: *Frankfurt* 1417 [1617]

*** FIRST EDITION. Gardner: *Bib. Rosicruciana*, No. 336; Ferguson: *Bib. chem.* I, p. 63; Bolton: *Select Bib. of chem.*, p. 1003. An essay on what Maier is pleased to call quack-alchemy. SEE FACSIMILE FACING PAGE ONE.

54 **Maier** (M.) JOCUS SEVERUS: hoc est, Tribunal aequum, quo nochia regina avium, phoenice arbitro, post varias disceptationes et querelas volucrum eam infestantium pronunciatur, et ob sapientiam singularem, Palladi sacrata agnoscitur. Sm. 4to, vignette on title, ornamental boards. **£5 0 0**

Nicolas Hoffmann for Theodore de Bry: *Frankfort* 1617

*** FIRST EDITION. Gardner: *Bib. Rosicruciana*, No. 337; Caillet: *Bib. des sciences occultes* 6994. A collection of allegorical poems on alchemy.

55 **Maier** (Michael) VIATORIUM, hoc est, de montibus planetarum septem seu metallorum; tractatus tam utilis, quàm perspicuus, quo, ut Indice Mercuriali in triviis, vel Ariadneo filo in Labyrintho, seu Cynosura in Oceano chymicorum errorum immenso, quilibet rationalis, veritatis amans, ad illum qui in montibus sese abdidit de rubea petra alexicacum, omnibus medicis desideratum, investigandum uti poterit. Sm. 4to, emblematical copper-cut border to title-page (portrait of author at the top, a landscape at the bottom, and goddesses representing the seven metals along the sides), woodcut ornaments and

CHEMISTRY: MAIER (MICHAEL)—*continued.*

initial letters, seven symbolic engravings by Jean Théodore de Bry in text, old scorings on some pages, some leaves slightly browned. Boards. **£9 0 0**

Hieronymus Galler for Jean Theodore de Bry: *Oppenheim* 1618

⁂ FIRST EDITION. Rosenthal, *Bib. Magica*, No. 577. Ferguson, *Bib. Chem.*, Vol. II, p. 65.

56 **Pharmacy.** DORVEAUX (Dr. Paul) CATALOGUE DES THESES DE PHARMACIE SOUTENUS EN PROVINCE 1803-1894. Aves un facsimile de la synthèse de Claude Joseph Geoffroy. 8vo, wrappers. **10/-** *Paris*: *H. Welter* 1895

57 **Photography.** DAGUERRE (Louis Jacques Mande, *Inventor of Photography* 1789-1851) Historique et description des procedes du Daguerreotype et du diorama. 8vo, original wrapper bound in, numerous diagrams, half modern red morocco. **£7 0 0**

Susse Freres: *Paris* 1839

⁂ FIRST EDITION. Zuchold, p. 5. A second edition at Paris, a presumably pirated reprint at Berlin, and several translations appeared in the same year. The British Museum has the first and second editions, both of which are imperfect.

58 **Pistoi** (C.) DEL MECCANISMO COL QUALE L'ARIA, E IL GUOCO ELEMENTARE si fissano nei miste, e diventano Principi Costitutivi di quei Corpi, nei quali si Trovano. 8vo, boards, calf back. **7/6** *V. P. Carli*: *Siena* 1775

59 **Sea Water.** FITZGERALD (R.) SALT-WATER SWEETNED: or a true account of the great advantages of this new invention both by sea and by land: together with a full and satisfactory answer to all apparent difficulties. Also the approbation of the Colledge of Physicians. Likewise a letter to the Honourable Robert Boyle to a friend upon the same subject. Sm. 4to, title-page dust soiled, wrapper. **£6 5 0** *John Harefinch*: *London* 1684

60 **Starkey** (George, *graduate of Havard College*) PYROTECHNY ASSERTED AND ILLUSTRATED, to be the surest and safest means for art's triumph over nature's infirmities. Being a full and free discovery of the medicinal mysteries studiously concealed by all artists, and onely discoverable by fire. With an appendix concerning the nature, preparation and virtue of several specifick medicaments, which are noble and succedaneous to the great arcana. 16mo, original sheep. FINE UNPRESSED COPY. **£17 10 0**

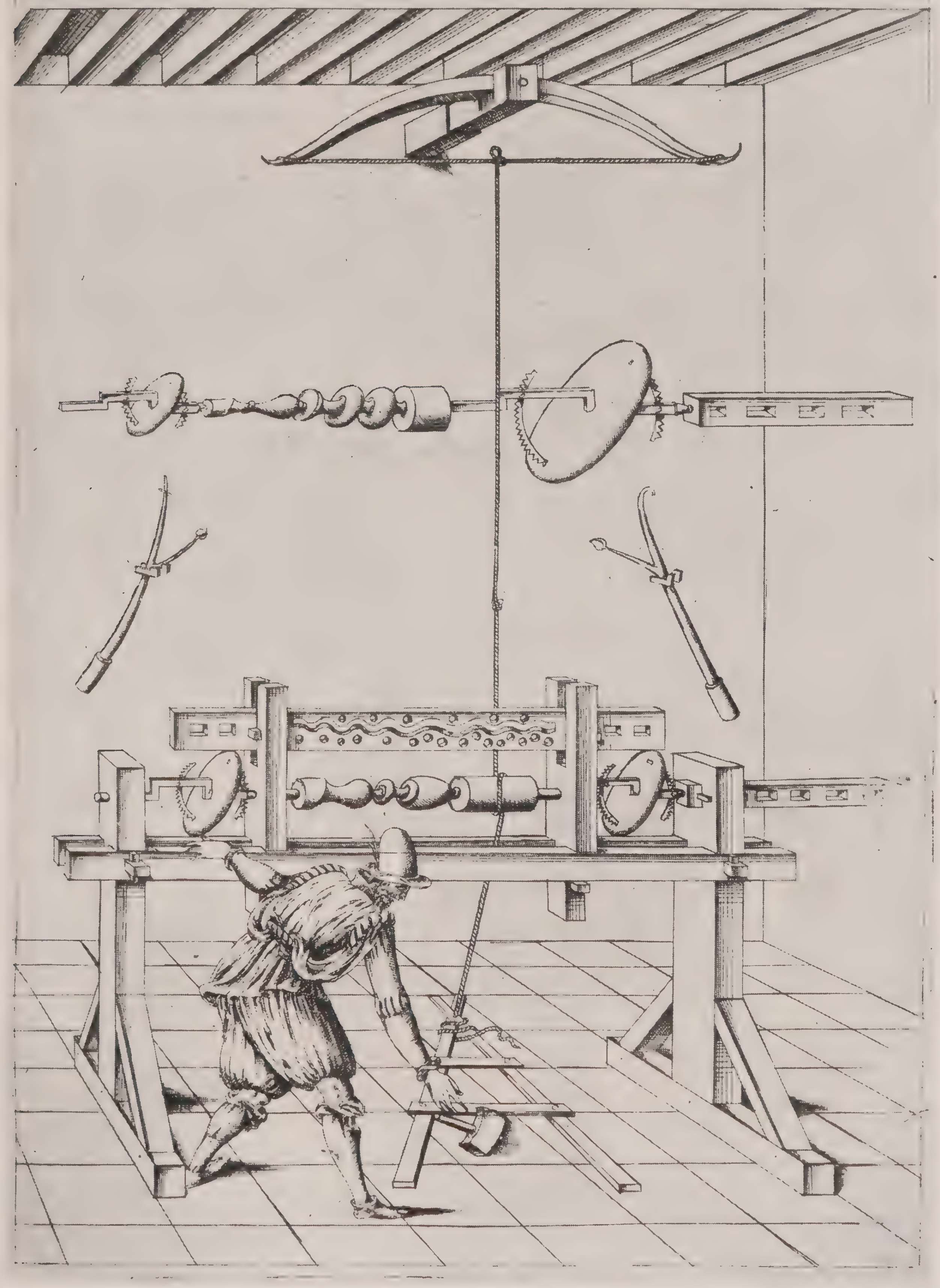
R[*oger*] *Daniel for Samuel Thomson*: *London* 1658

⁂ VERY RARE. Inscription on title-page: "W. S. J. Crawley," in a seventeenth century hand. Christie-Miller copy. Two editions were published in 1658: (1) [18] + 172 pp., and (2) [2] + xi + iv + 172 pp. This is (1). This copy has the last blank leaf M8. Neither of these editions are recorded by the Surgeon General's Library Catalogue. Dedicated to Robert Boyle.

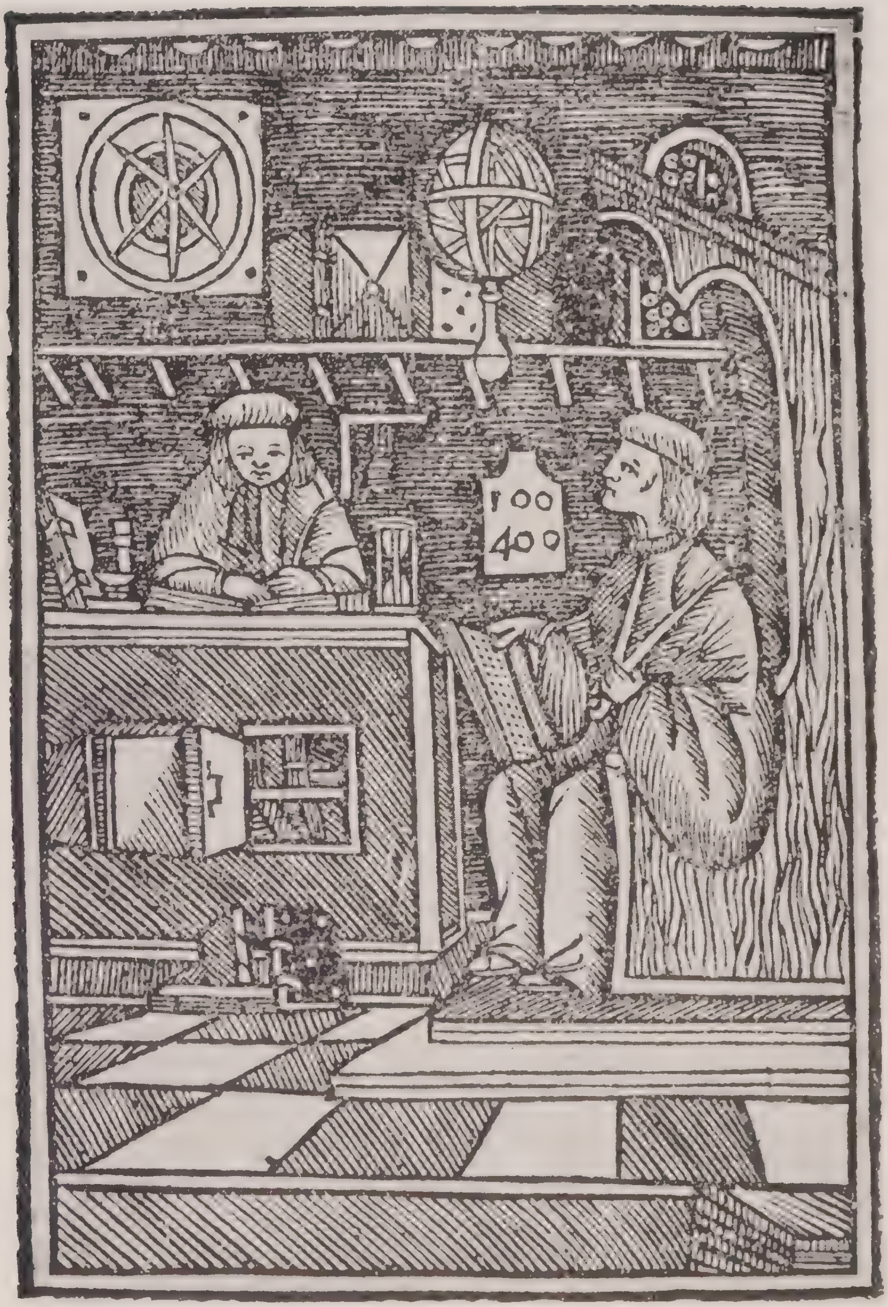
A contribution to the literature of Alchemy. "He graduated M.A. at

7

TORNVS NOVVS ET GEOMETRICVS, AD REDVCENDVM IN FORMAM OVALEM QVEMLIBET CYLINDRVM, ET CONVM, CVM SVIS ORNAMENTIS, EX OMNI MATERIA TORNATILI.



SEE NO. 65. BESSON. 1578.



SEE NO. 112. [TAGLIENTE.] 1525.

CHEMISTRY: STARKEY (GEORGE)—*continued.*

Harvard College in 1646. . . Between 1646 and 1650 Starkey proceeded to England, and from 1650 onwards he rendered himself conspicuous by vending quack medicines, styling himself 'a philosopher made by the fire, and a professor of medicine that is real, not histrionical.'" He was a friend of Thomas Vaughan, the alchemist.

Bolton, *Select Bibliography of Chemistry*, p. 1048. Dictionary of National Biography, Thin Paper Edition, vol. 18, p. 1048. Caillet, *Bibliographie des sciences occultes*, vol. 3, p. 552. Ferguson, *Bibliotheca Chemica*, vol. 2, p. 401. Sibley, *Graduates of Harvard University*, vol. 1, pp. 131-137.

61 **Starkey** (George) PYROTECHNIA: ofte vuur-stook-kunde, vast-gesteld en opgehelderd, ofte het sekerste en veiligste middel om de konst te doen triumpheren, over de natuurlijke gebrekem sijnde een volle en opene ont dekkinge van de medicinale verborgentheden door alle konstenaars, met voordagt verborgen, en alleen ont dekkelijte toebeteidinge, en kragten van verscheide specifique medicamenten, die seer edel en agter volgende, het groote arcana zijn, met een opdragt des autheurs aan de Heer R. Boyle. Uut het Engels vertaalt door J. van de Velde. 12mo, 15 ll., 192 pp., frontispiece, old vellum. **£2 5 0**
Jacob van de Velde: *Amsterdam* 1687

⁂ Not in the British Museum.

62 **Steel Working.** RHODE (Joh., 1587-1659) DE ACIA Dissertatio Ad Cornelii Celsi mentem Qua simul universa Fibulae ratio explicatur [etc.]. 4to, numerous illustrations, including *fibulae*, or "safety" pins and buckles, ornaments, etc., worked in steel: most of the illustrations are woodcuts in the text, but there are four engraved plates; leaves browned throughout, mottled calf, with the **Arms of Pierre Daniel Huet** (1630-1721), Archbp. of Avranches, in gilt on sides, his large armorial dated ex-libris inside cover, and the strip which he always used, with legend "Ne extra hanc Bibliothecam efferatur. Ex obedientia" pasted at foot of title. **£4 5 0**
Typis Matthiae Godicchenii, Sumptibus Petri Hauboldi
Hafniae [*Kjöbenhavn*] 1672

⁂ Biog. Univ., xxxvii, 481—"Il y démontre, contre l'opinion de J. J. Clifflet, et d'autres médicins, que Celse employait, pour les sutures, the fil de lin, et son pas le fil de métal . . . curieuse dissertation." A rare book on steel working, with a life of Cornelius Celsus.

63 **Wine Manufacture.** MACCULLOCH (J.) REMARKS ON THE ART OF MAKING WINE, with suggestions for the application of its principles to the improvement of Domestic Wines. 8vo, original boards, with label. 8/= *Longman* [*etc.*]: *London* 1829

64 **Wine Manufacture.** MULPHINUS (Joannes Augustinus) OENO-LOGIA, idest (*sic*) vini dissertatio in qua demonstratur vinum propinari posse in destillatione. Ubi obiter nonnulla pulchra de vino, tum adversias vinolentos, tum vini detractores. Sm. 4to, 47 pp., pp. 5-6: a list of the author's other works, p. 47: errata, p. 48 blank, wrapper. **£2 0 0** *Joannes Baptista Tiboldus*: *Genoa* 1667

⁂ RARE. Not in Ferguson, *Bib. Chem.*, Bolton or Waring.

ENGINEERING.

65 **Besson** (Jacques, *Professor of Mathematics at Orleans, fl.* 1569) THEATRUM INSTRUMENTORUM ET MACHINARUM. Cum Franc. Beroaldi figurarum declaratione demonstrativa. La. folio, title within fine architectural woodcut border (at top, a female draped figure seated, personifying Geometry, holding a pair of dividers in one hand and a globe in the other, at either side of her a naked child, the sides are occupied by full length figures of two sages crowned with bays, the lower portion consists of grotesque heads, fruit, etc.), woodcut ornaments and initials, 60 COPPER-PLATES OF MACHINES, etc., original stamped pigskin. (*Upper Cover*: Portrait of Julius, Duke of Brunswick and Luneberg, with an encircling inscription: *Princeps Julius dux Brunsvic. et Luneb. me fieri fecit,* at the top of the portrait the Duke's initials, I.D.B.E.L., and below Anno 1578, this is surrounded by a series of panels or roll tool ornaments, interspersed with figures bearing the legends *Ecce Virgo Concipiet, Ecce Agnus Dei, etc. Lower Cover*: Similar to upper cover, but with the Duke's Arms in centre instead of portrait, r.e. [not in Weale]. **£21 0 0**

Bartholomé Vincent: *Lyons* 1578

⁂ Poggendorff, I, 178; Hoeffer, V, 870; Michaud, IV, 212; Graesse, I, 354. Not in British Museum, Bibliotheque Nationale Catalogue, Zeitlinger, or Ferguson: Books of Secrets. A volume of exceptional interest for the history of early engineering: plates 1-6 are of various matmematical instruments; 7-10, various forms of LATHES; 11, a furnace; 12, the forerunner of a STEAM-HAMMER, worked by hand by means of gearing; 13-14, the forerunner of a STEAM-SAW worked in a similar manner; 16-19 have a considerable ornamental value, and were evidently designed by an artist, 16 and 17 are carriages and 18 and 19 devices for holding wine, etc. [NOT IN JESSEN OR GUILMARD (the former describes the French edition of 1579]; 52 is a new form of FIRE ENGINE, which is of particular interest as it was copied by an English artist for Lucar's *Lucarsolace*, 1590. (See our catalogue 922, pp. 16 and 17).

See Illustration facing page 16.

66 **Boeckler** (Georgius Andreas) ARCHITECTURA CURIOSA NOVA, exponens Fundamenta hydrogogica, indolemque aquae, aëris interventu in altum levandea; varios Aquarum ac salientium Fontium Lusus per varia Spectatu jucunda Epistomiorum seu Sephonum Genera; magnum amoenissimorum Fontium, Machinarumque aquaeductoriarum Sumta magno extructarum, ac per Italiam . . . . visendarum, numerum specus artificiales sumptiosissimas . . . . cum Auctario Figurarum elegantissimarum, ad Hortorum Topiaria vario Ductu dividenda, nec non conclavium Laquearibus ac Pavimentis segmentandis, itemque Labyrinthis construendis, ad hibendarum. . . . in Latinam Linguam translata à Johanne Christophoro Sturmio. Folio, frontispiece and two hundred and twenty-eight plates. Vellum. **£6 0 0** *Paulus Fuersten*: *Nuremberg* [1664]

⁂ "Ouvrage . . . contenant des figures de jets-d'eau, cascades, bassins, fontaines, grottes," etc. Brunet, i, 1024.

67 **Boeckler** (Georgius Andreas) ARCHITECTURA CURIOSA NOVA. [*Another copy.*] Calf. **£6 0 0**

Paulus Fuersten: *Nuremberg* [1664]

ENGINEERING—*continued.*

68 [**Harris** (John)] A PLEASANT AND COMPENDIOUS HISTORY of the first inventers and instituters of the most famous arts, misteries, laws, customs and manners in the whole world . . . To which is added, several curious inventions, peculierly attributed to England and English-men. 16mo, contemporary sheep. **£5 10 0**
For John Harris: London 1686

⁂ FIRST EDITION. Plomer: *Dict. of Printers*, 1668-1725, p. 147. CONTENTS: Mnemonics: AMBER: BANQUETS AND DELICATE DISHES: guns: hunting and fishing: libraries: MEASURES AND WEIGHTS: PAPER, THE FIRST MAKER OF IT: PRINTING, WHEN, WHERE, AND BY WHOM IT WAS INVENTED: Jope Joan: CAXTON: coaches: watches: telescope: spinning: copperas: pins: AN ENGINE FOR CUTTING TOBACCO: cane chairs: COLOURING AND MARBLING OF BOOKS: ENGINE TO EXTINGUISH FIRE: 4 pp., advertisements at end.

69 **Hero Mechanicus.** LIBER DE MACHINIS BELLICIS, necnon liber de Geodaesia a FRANCISCO BAROCIO, Patritio Veneto latinate donati, multis mendis expurgati, & figuris, ac scholiis illustrati. Sm. 4to, printer's device on title, historiated initials and headpieces, and a GREAT NUMBER OF WOODCUT VIEWS, DIAGRAMS AND OTHER ILLUSTRATIONS ON THE MILITARY ART, MANY BEING FULL-PAGE. A VERY FINE COPY OF THIS VERY RARE BOOK. Wrappers. **£3 10 0**
Apud Franciscum Senensem: Venetiis 1572

⁂ Barocius's notes are illustrated chiefly with geometrical and other diagrams, and a zodiacal woodcut, and the text is embellished with numerous and interesting cuts, illustrating military tactics, with xylographic explanations. Hero was a seventh century writer on war.

70 **Hero Mechanicus.** DE GLI AUTOMATI, overo machine se moventi, libri due, tradotti dal Greco da Bernardino Baldi, Abbate di Guastalla. Novamente ristampato. Con ogni diligenza riccretto. Sm. 4to, 48 ll., engraved title, illustrations in text, modern parchment, gilt. **£2 10 0** *Giovanni Battista Bertoni: Venice* 1601

⁂ Not in Haym, or Brunet.

71 **Mandey** (Venterus) and MOXON (James) MECHANICK-POWERS: or, The Mistery of Nature and Art unvail'd. Shewing what Great Things may be perform'd by Mechanick Engines, in removing and raising Bodies of vast weights with little strength, or force; and also the making of Machines, or Engines, for raising of Water, draining of Grounds, and several other Uses. Together with a Treatise of Circular Motion artificially fitted to mechanick use, and the making of Clock-work and other Engins. Sm. 4to, NUMEROUS FOLDING PLATES ILLUSTRATING ENGINEERING PROBLEMS. Old sheep. **£4 0 0** *For the Authors: London* [*about* 1696]

⁂ Zeitlinger 2796. According to the preface the first systematic treatise on practical mechanics. NOT IN POGGENDORFF.

ENGINEERING—*continued.*

72 **Mathematical Instruments.** RAMSDEN (John, *Mathematical Instrument maker*) DESCRIPTION OF AN ENGINE FOR DIVIDING MATHEMATICAL INSTRUMENTS. Published by Order of the Commissioners of Longitude. 4to, four copper-plates, cobb boards. **£1 10 0** *William Richardson for John Nourse*: *London* 1777

⁂ FIRST EDITION. Watt. 789a (with a slight variation in the title).

73 **Ramelli** (A.) DIVERSE ET ARTIFICIOSE MACHINE. Folio (13⅝ by 9 in.), numerous plates, old calf gilt, joints rubbed. LARGE COPY. **£12 0 0** *The Author*: *Paris* 1588

⁂ FIRST EDITION. COLLATION: 1 leaf, $*^7$, $**$, a-s^8 t^6 u-z A-D^8 E-$K^{4.2}$. L^6 M-$P^{4.2}$. Q^4 R-X^8 Y^4 Z Aa^2 Bb^8 Cc-$Ff^{4.2}$. Gg-$Kk^{6.2}$. Haym iv, p. 90, No. 7; Brunet IV, 1095; "Rare et recherché"; Watt 789*b*; Biographie Universelle xxxviii, p. 45; British Museum General Catalogue, "R", v, p. 125; Bibliotheca Chemico-Mathematica 3881; Poggendorff II, 561; Graesse VI, p. 20; Beck, pp. 206-234.

Ff. 317*b*-338*a* are occupied by the description of various patent MILITARY ENGINES. Ff. 316*a*-317*a* describes a patent LIBRARY APPLIANCE, consisting of a number of reading desks on a wheel, by means of which a student may consult numerous works at once without getting up from his chair.

74 **Schott** (Caspar) TECHNICA CURIOSA, sive mirabilia artis, libris xii. comprenhensa; quibus varia experimenta, variaque technasmata pneumatica, hydraulica, hydrotechnica, mechanica, graphica, cyclometrica, automatica, cabalistica, aliaque artis arcana ac miracula, rara, curiosa, ingeniosa, magnamque partem nova et antehac inaudita, erudite orbis utilitati, disceptionique proponuntur. Ad eminentissimum S. R. I. Principem Joannem Philippum Elector. Mogunt. cum figuris aeri incisis, et facultate superiorum. Sm. 4to, 59 plates, contemporary boards. **£5 15 0** *Jobus Hertz*: [*Würzburg*] 1687

⁂ The last leaf contains a list of Schott's works. Except for the few defects which we indicate a nice copy of this exceedingly interesting book. A few leaves have been repaired, and there is a small hole in Nn2. Is the preface Schott reviews the scientific knowledge of his day, and states that the atmosphere does not extend *beyond* the moon. In books one and two the author gives an account of the invention of the air-pump by Otto von Guericke and Robert Boyle (Biog. Univ. xli, 233). Guericke first conceived the idea of an air-pump, and demonstrated the pressure of the atmosphere, by placing in contact two hemispheres of copper, which sixteen horses pulling in opposite direction, were unable to separate. This apparatus is known as the "hemispheres of Magdeburg." (xlx 24). Plate 3 gives a picture of the experiment. Boyle read of Guerick's invention, in Schott's *Mechanica hydraulica pneumatica*, for exhausting the air in a closed vessel, and set Hooke to contrive a method less clumsy, the result bpeing the so-called *machina Boyleana*, which presents all the essential characteristics of the modern air-pump. By a multitude of experiments performed with it, Boyle illustrated the effects (at that time very imperfectly recognised), of the elasticity, compressibility and weight of air, investigated its functions in respiration, combustion, and conveyance of sound, and exploded the obscure notion of a *fuga vacui*. (D.N.B., II, 1027). Books III and IV contains many experiments with mercury (B.U.) and in Book IV (p. 252) he supports the claim of Valerianus Magnus to be the inventor of the Torricellian tube (Zeitlinger, *Bib. Chem. Math.* 14749).

ENGINEERING—*continued.*

75 **Ventilating Apparatus.** SUTTON (Samuel) AN HISTORICAL ACCOUNT or a new method for extracting the foul air out of ships, etc., with the description and draught of the machines, by which it is performed: in two letters to a friend. The second edition, to which are annexed two relations given thereof to the Royal Society, by Dr. Mead and Mr. Watson, and a discourse on the scurvy by Dr. Mead. 8vo, 8 pp., 120 pp., one folding plate, original calf gilt, with the bookplate of Sir Joseph Copley, Bart. **15/-**
For J. Brindley: London 1749

76 **Washing Machine.** SCHAEFFER (Mr.) DESCRIPTION D'UNE MACHINE inventée en Angleterre et perfectionée en Allemagne pour blanchir le Linge. 12mo, *folding plate of the washing machine,* old calf. **£2 0 0** *J. G. Bauer: Strassburg* 1767

77 **W[ilkins]** (J.) MATHEMATICALL MAGICK: or, The wonders that may be performed by Mechanicall Geometry. 12mo, numerous copper and woodcuts of mechanical devices, etc., including *two land-yachts.* Old calf, gilt. **£3 12 6**
M. F. for Sa. Gellibrand: London 1648

⁂ FIRST EDITION. This book treats, *inter alia,* of air-guns, submarines, human flight, and perpetual motion. One of the chapter headings reads: "A resolution of two of the chief difficulties that seem to oppose the possibility of a flying chariot."

79 **Wilkins** (J.) MATHEMATICAL MAGICK: or the wonders that may be performed by mechanical geometry. 12mo, fourth edition, portrait, diagrams, contemporary calf, one joint weak. **£1 15 0** 1691

79A **Worcester** (Henry Somerset, *Marquis of*) A CENTURY OF THE NAMES AND SCANTLINGS of such inventions, as at present I can call to mind. . . . Sm. 12mo, old wrappers, uncut. **£1 8 0**
T. Payne: London 1746

Loundes, p. 2991. CONTENTS: ciphers: military subjects: clocks: "A often discharging pistol": "A fire water work" (steam-engine): "A flying man": "A continually going watch": etc., etc. A leaf of advertisements at end.

80 **Worcester** (Marquis of) A CENTURY OF THE NAMES. [*Another edition.*] 16mo ($5\frac{1}{4}$ by 3 in.), calf gilt, some edges uncut, A LARGE COPY. **£1 10 0**
R[obert] and A[ndrew] Foulis: Glasgow 1767

⁂ Lowndes, p. 2991.

81 **Worcester** (Marquis of) A CENTURY. [*Another copy of the* 1767 *edition.*] 16mo ($4\frac{7}{8}$ by $2\frac{3}{4}$ in.), old calf, gilt back. **£1 1 0**
1767

⁂ PROVENANCE: John Whitefoord Mackenzie (Seal armorial bookplate: Franks 19294).

82 **Worcester** (Marquis of) A CENTURY. [*Another copy of the* 1767 *edition.*] 16mo ($4\frac{15}{16}$ by $2\frac{15}{16}$ in.), old calf, one joint cracking. **12/6** 1767

⁂ PROVENANCE: John Hopton Russell Chichester (Bookplate: Franks 5742/5743).

82A **Worcester** (*Marquis of*) CENTURY [*Another edition*]. Sq. 12mo, imprint cut away, wrapper. **5/-** [17—]

ENGINEERING—*continued.*

83 **Worcester.** DIRCKS (Henry) THE LIFE, TIMES, AND SCIENTIFIC LABOURS OF THE SECOND MARQUIS OF WORCESTER. To which is added a reprint of his *Century of Inventions,* 1663, with a commentary thereon. 8vo, engraved frontispiece by J. Cochran, plan and illustrations, original cloth, uncut and partly unopened. **£1 5 0** *London* 1865

GEOLOGY.

84 **Earthquake.** RUFFO (Salvatore) DE HORRENDO TERAE MOTU, qui contigit Panormi nocte post kalend. Sept., 1726, tractatus historicus, quem ex Italico in Latinum sermonem conversum, adjecta praefatione atque tabula urbis Panormi edi curavit G. Frid. Richter. Sm. 4to, folding plan, wrapper. **12/6** *Leipzig* 1727

⁂ A contemporary account of the terrible EARTHQUAKE which devastated Parma in 1726.

85 **Geography.** VARENI (Bernhardi) GEOGRAPHICA GENERALIS, in qua affectiones generales Telluris explicantur. Device on title and five folding plates, contemporary mottled calf. **£1 5 0** *John Hayes: Cambridge* 1672

⁂ FIRST EDITION.

86 **Metallurgy.** AN ACT CONCERNING THE NEW INVENTION OF MELTING DOWN IRON AND OTHER METALS with Stone-Coal and other Coals, without Charking thereof. Folio, uncut, wrappers. **10/-** *London: John Field* 1651

⁂ Extracted from a volume of Commonwealth Statutes.

87 **Metallurgy.** AGRICOLA (Georgius) DE RE METALLICA. Translated from the first Latin edition of 1556, with Biographical Introduction, Annotations, and Appendices upon the Development of Mining Methods, Metallurgical Processes, Geology, Mineralogy, and Mining Law from the earliest times to the 16th Century, by Herbert Clark Hoover and Lou Henry Hoover. Folio, illustrations, parchment, uncut edges. **£4 10 0** *The Mining Magazine: London* 1912

⁂ The only English translation of this work, it contains many facsimiles of woodcuts ascribed to Hans R. Manuel and Basilius Wehring.

88 **Metallurgy.** AGRICOLA (Georgius, 1494-1555, *M.D.*) OPERA DI GIORGIO AGRICOLA DE L'ARTE DE METALLI, partita in xii. libri, ne quali si descrivano tutte le sorti, e qualità de gli uffizij, de gli strumenti, delle macchine, e di tutte l'altre cose attenenti a cota larte, non pure con parole chiare, ma eziando si mettano a luoghi loro le figure di dette cose ritratte al naturale, con l'aggiunta de nomi di quelle, cotanto chiari, e spediti, che meglio non si puo desiderare, o hauere. Aggiugnesi il libro del medesimo autore, che tratta de gl'

GEOLOGY—*continued.*

Animali di sottoterra, da lui stesso corretto, & riueduto. Tradotti in lingua Toscana da M. Michtlangelo Florio Fiorentino. Con l'Indice di tutte le cose più notabili alla fine. Folio (12⅛ by 8⅛ in.), Froben's "caduceus" device on title-page and at end, numerous woodcuts of digging ore, mines, mining tools, smelting, casting, etc., leaves browned, old vellum. **£6 10 0**

Hieronymus Frobenius: *Basle* 1563

⁂ FIRST ITALIAN EDITION. "Agricola, a native of Saxony, acquired a perfect knowledge of the processes of metallurgy from the miners of Chemnitz, and perceived the immence resources that might be drawn from the abysses of the earth. 'He was the first mineralogist,' says Cuvier, 'who appeared after the revival of science in Europe. He was to mineralogy what Gesner was to zoology; the chemical part of metallurgy, and especially what relates to assaying, is treated with great care, and has been little improved down to the end of the eighteenth century.'' It is plain that he was acquainted with the classics, the Greek alchemists, and many manuscripts." (Hallam.)

89 **Metallurgy.** AUGURELLO (Giovanni Aurelio) CHRYSOPOEIAE LIBRI III. et Geronticon Liber primus. Sm. 4to, fine renaissance border round title, fine historiated woodcut initials, large printer's device at end, half sheep. **£3 5 0**

Johann Froben: *Basle, August,* 1518

⁂ Brunet I, 556, Watt 55e, 112 pp. A poem on the "art" of transmuting base metal into gold.

90 **Metallurgy.** BARBA (Albaro Alonso) THE ART OF METALS, in which is declared the manner of their generation and the concomitants of them. In two books. Written in Spanish by Albaro Alonso Barba, master of art, curate of St. Bernards parish in the imperial city of Potosi, in the kingdom of Peru in the West-Indies, in the year 1640. Translated in the year 1669 by the R. H. Edward [Montagu], Earl of Sandwich. 12mo (6$\frac{1}{16}$ by 3⅞ in.). A-K8. Contemporary sheep. **£4 15 0** *For S[amuel] Mearne*: *London* 1674

⁂ SECOND EDITION. Lowndes 110, D.N.B., xiii, 684.

Bound with this volume is:—

"The Second Book of the Art of Mettals, wherein is taught the common way of refining silver by quicksilver. With some new rules added for the better performance of the same. Written in Spanish by Albaro Alonso Barba, . . . 1674. A-F8, one plate, F8 a blank leaf.

⁂ FIRST EDITION. Ferguson I, 70. According to Ferguson these two books were published together.

GEOLOGY—*continued.*

91 **Metallurgy.** NAZARI (Giovanni Battista) DELLA TRAMUTATIONE METALLICA SOGNI TRE; nel primo de quali si tratta della falso tramutatione sofistica: nel secondo della vtile tramutatione detta reale vsuale: nel terzo della diuina tramutatione detta reale Filosofica. Aggiontovi di Nvovo la Concordanza de Filosofi, & loro Prattica; Nellaquale, si vede i gradi, & termini de esso diuino magistero, & della verissima Compositione della Filosofia Naturale, con laquale ogni cosa diminuta si riduce al vero Solificio, & Lunificio. Sm. 4to, ITALIC LETTER, anchor and dolphin device on title, slight defect in title, woodcut initials and ornaments, 15 woodcuts of CABALISTICAL SIGNS, etc., many of them very grotesque, some leaves waterstained, limp boards. **£3 0 0** *Pietro Maria Marchetti*: *Brescia* 1599

92 **Metallurgy.** PETTUS (Sir John) FLETA MINOR. The Laws or Art and Nature, in knowing, judging, assaying, fining and inlarging the Bodies of confined Metals. In two Parts. The first contains Assays of Lazarus Erckern . . . The second Essays on Metallic Words [a glossary of metallurgical terms, etc.]. Folio (13½ by 8⅝ in.), portrait by R. White, and 43 copper engravings of FURNACES, RETORTS, etc., contemporary calf. FINE COPY. **£4 5 0** *Thomas Dawkes for the Author*: *London* 1683

⁂ FIRST EDITION.

93 **Metallurgy.** RAY (John, *F.R.S.*, 1627-1705) A COLLECTION OF ENGLISH WORDS not generally used, with their significations and original, in two alphabetical catalogues, the one of such as are proper to the northern, the other to the southern countries. WITH AN ACCOUNT OF THE PREPARING AND REFINING SUCH METALS AND MINERALS AS ARE GOTTEN IN ENGLAND. 16mo, old calf, rebacked and shaken. **£1 10 0** *For C. Wilkinson*: *London* 1691

⁂ "THE SECOND EDITION, augmented with many hundreds of words, observations, letters, etc." Hazlitt II, p. 353.

94 **Mineral Oil.** GRETSER (Jakob) FONS OLEI WALPURGINI APUD EYSTETTENSES explicatus atque defensus. Sm. 4to, copper plate, original wrappers and stitching. **£2 5 0** *Elisabeth Angermaria*: *Ingolstadt* 1620

⁂ De Backer and Sommervogel, *Bib. de la Comp. de Jésus*, Vol. 3, col. 1800, No. 214. VERY RARE. Not in Agassiz, *Bib. of Geology*, or Burroughs, *Bib. of Petroleum and allied Substances*. A very rare and early book on mineral oil. The Encyc. Brit under "Walpurga" describes it as a "kind of bituminous oil," which happened to spring from the alleged site of the Saint's grave.

GEOLOGY—*continued.*

95 **Mineralogy.** PRYCE (William) MINERALOGIA CORNUBIENSIS: A Treatise on Minerals, Mines and Mining: containing the theory and natural history of strata, fissures and lodes, with the best methods of discovering and working of coal, copper and lead mines, and of cleansing and metalizing their products; shewing each particular process for dressing, assaying, and smelting of ores. To which is added, an explanation of the terms and idioms of miners. Folio, portrait, folding diagrams and tables, half calf. FINE COPY.
£3 0 0 *James Phillips*: *London* 1778

⁂ FIRST EDITION. D.N.B., xvi, p. 429: "It [*Mineralogia*] was the result of careful study of the mining world of Cornwall, and is still of value, both for historical purposes, and for practical mining."

96 **Mineralogy.** RASHLEIGH (Philip) SPECIMENS OF BRITISH MINERALS selected from the Cabinet of Philip Rashleigh, with general Descriptions of each Article. Two parts in one vol., 4to. Part I, pp. 56, with 33 coloured plates and an introduction. Part II., 23 pages of letterpress describing 20 coloured plates, also the Section of the Stream-work at Poth, with a coloured engraving, contemporary straight grain red morocco, gilt, inside panels, g.e., by GILMOUR of SALISBURY, with his ticket. FINE COPY. **£6 5 0**
G. Nicol: *London* 1797-1802

⁂ These brilliant and beautiful engravings of minerals are mostly representative of minerals extracted from the mines of Cornwall.

97 **Mining** (Copper) A SHORT ABSTRACT of the Evidence given before the Committee of the House of Commons, appointed in April, 1799, to enquire into the State of the Copper Mines, and Copper Trade, of this Kingdom. **12/6** *G. Woodfall*: *London* 1800

98 **Mining** (Copper) REPORT from the Committee appointed to enquire into the State of the Copper Mines, and Copper Trade, of this Kingdom. 8vo, wrapper. **15/-** *G. Woodfall*: *London* 1800

99 **Mining.** LINDEN (Dietrich Wessel) THREE LETTERS ON MINING AND SMELTING. . . . To which is added a fourth letter, setting forth a discovery of an easy method to secure ships' bottoms from worms. 8vo, errata leaf gummed on reverse of title, original calf roxburghe. FINE COPY. **£2 2 0**
For George Keith: *London* 1750

⁂ FIRST EDITION. British Museum Catalogue, "L," xl, p. 1. CONTENTS: Mining in NORTH WALES: ON THE DIVINING ROD as used to find metals: etc., etc.

PROVENANCE: Hugh Campbell, third Earl of Loudoun (d. 1731) [Dictionary of National Biography, III, pp. 811-812] (Bookplate: Franks, 4949). This book cannot have been owned by the above Earl of Loudoun as he died nineteen years before it was published. Possibly his widow used his bookplate after his death.

GEOLOGY—*continued.*

100 **Mining.** PETTUS (Sir John) FODINAE REGALES, or the History, Laws, and Places of the Chief Mines and Mineral Works in England, Wales, and the English Pale in Ireland. As also of the Mint and Mony [*sic*]. With a Clavis explaining some difficult Words relating to Mines, &c. Small folio, engraved portrait of the author (*æt* 57) by SHERWIN, engraved coats of arms (in the text), and two full-page engraved views; an exceptionally fine copy in the original panelled calf. **£6 10 0**

H. L. and R. B. for Thomas Basset: London 1670

⁂ FIRST EDITION. Written at the request of Prince Rupert and Shaftesbury.

101 **Mining.** [PLATTES (Gabriel)] A DISCOVERY OF SUBTERRANEALL TREASURE, viz.: of all manner of mines and mineralls; from the gold to the coale; with plaine direction and rules for the finding of them in all kingdomes and countries. And also the art of melting, refining, and assaying of them is plainly declared, so that every ordinary man, that is indifferently capacious, may with small charge presently try the value of such oares as shall be found either by rule or by accident. Whereunto is added a reall experiment whereby every ignorant man may presently try whether any peece of gold that shal come to his hands be true or counterfeit, without defacing or altering the forme thereof, and more certainly than any goldsmith or refiner could formerly discerne. Also a perfect way to try what colour any berry, leafe, flower, stalke, root, fruit, seed, barke, or wood will give: with a perfect way to make colours that they shall not stayne nor fade like ordinary colours. Very necessary for everyone to know, whether he be travailer by land or sea, or in what country, dominion, or plantation soever he shall inhabite. Sm. 4to, red morocco roxburghe, gilt. **£18 10 0**

I. Okes for Jasper Emery: London, 1639

⁂ Lowndes, 1880: "Title, dedication, etc., four leaves"; this copy has five leaves; . . . "In the discovery Plattes gives an account of his making pure gold. This work is reprinted in a collection of valuable treatises upon metals, mines and minerals. London, 1738. 12mo. London, 1740. 12mo." Towneley, I, 735; Gordonstoun, 1820; Allibone, p. 1607, No. 3; Watts, p. 761; Ferguson, Bib. Chem., II, 207; not in the library; Secrets, I, 17: "In English two technical works were published that had some reputation. Gabriel Platte's Discovery. . . . This, as its name indicates, is concerned chiefly with mining and metallurgy, but there is a section at the end devoted to the colours which can be extracted from vegetables, and the way of dyeing in fast colours"; Hazlitt, II, 479; D.N.B., xv, 1296: This book is *A discovery of infinite treasure* under another title; not in Bolton; Bib. of Chem.; not in Agassiz; not in Zeitlinger, Bib. Chem. Math.; B.M.C., 1240; not in Sayle.

102 **Mountains.** FAVENTIES DE MONTIUM ORIGINE Dialogus. Sm. 4to, woodcut "Renown" device on title, historiated woodcut initial, WITH THE ORIGINAL BLANK LEAF AFTER THE DEDICATION, wrapper. Fine Copy. **£2 0 0**

In Academia Veneta [Aldine Press: Venice] 1561

⁂ Renouard, p. 281, No. 56. Bib. Nat. Cat., Vol. 50, Col. 162. Not in Agassiz. Bib. Zool. et Geologiae. "Rare" (Renouard).

GEOLOGY—*continued.*

103 **Petrology.** BARTON (Richard) LECTURES IN NATURAL PHILOSOPHY, designed to be a foundation, for reasoning pertinently, upon the Petrifications, Gems, Crystals and Sanative Quality of Lough Neagh in Ireland; and intended to be an Introduction to the Natural History of Several Counties contiguous to that Lake, particularly the County of Ardmagh. Sm. 4to, plates, half bound. **£2 0 0** *A. Reilly for the Author: Dublin* 1751

⁂ FIRST EDITION. [1] + xviii + 218 pp. + 7 plates. Watt (81d) mentions only 6 plates. This copy contains plate 3, the existence of which Lowndes appears to be unaware. (Lowndes, 125).

104 **Petrology.** LAPIDARIO DEL REY D. ALFONSO X. Codice Original. 4to. Edited by Pedro de Madrazo. Chromo lithographic facsimile of a famous 13th century manuscript, with a large number of initial letters, miniatures, and signs of the zodiac. Brown buckram, uncut and unopened. **£4 10 0** *Madrid* 1881

⁂ The MS. comprises 266 pages, the original is in the Biblioteca del Escorial.

105 **Petrology.** NICOLS (Thomas) A LAPIDARY: or, the History of Pretious Stones: with cautions for the undeceiving of all those that deal with Pretious Stones. Sm. 4to, with a folding diagram of the qualities of precious stones, green morocco, gilt, gilt edges. **£3 0 0** *T. Buck: Cambridge* 1652

⁂ An early scientific treatise on gems. Nicols rejected the magical use of stones altogether as "Satanic subtleties."

106 **Plot** (Robert) DE ORIGINE FONTIUM TENTAMEN PHILOSOPHICUM. In Praelectione habita coram societate philosophica nuper Oxonii instituta ad scientiam naturalem promovendam. 8vo, engraved frontispiece, linen boards, covered with a Persian Tapestry of the XVIth century. **£2 0 0** *E Theatro Sheldoniano: Oxonii* 1685

107 **Volcanoes.** HAMILTON (Sir William) CAMPI PHLEGRAEI. Observations on the Volcanos of the Two Sicilies, as they have been communicated to the Royal Society of London. To which, in order to convey the most precise idea of each remark, a new and accurate map is annexed, with 54 plates illuminated, from drawings taken and colour'd after nature, under the inspection of the author, by the editor, Mr. Peter Fabris. (Supplement, being an account of the Great Eruption of Mount Vesuvius in August, 1779. To which are annexed five plates illuminated from drawings.) 3 vol., folio (18 by 12½ in.), text in French and English, map and 59 plates coloured *en gouache*, original half binding, FINE COPY OF THIS RARE AND IMPORTANT WORK. **£4 0 0** *Naples* 1776-79

⁂ THIS FIRST EDITION is of much greater importance than the reissue of 1798.

MATHEMATICS.

108 **Arithmetic.** BORGO (Pietro) LIBRO DE ABACHO. Sm. 4to, 100 ll., contemporary limp vellum, some leaves a little stained.
£3 5 0 *Bernardino de Bindoni: Venice, October,* 1540

⁂ VERY RARE. Not in Haym, British Museum, De Morgan, or Bibliothèque Nationale Catalogue.

109 **Arithmetic.** COCKER (Edward) DECIMAL ARITHMETIC: wherein is shewed the nature and use of decimal fractions, in the usual rules of arithmetick, and in the mensuration of planes and solids. Together with tables of interest, and rebate for the valuation of leases and annuities, present or in reversion, and rules for calculating those tables. Whereunto is added his artificial arithmetick, shewing the genesis or fabrick of the logarithmes, and their use in the extraction of roots, the solving of questions of anatocisme, and in other arithmetical rules, in a method not usually practised. Also his algebraical arithmetick containing the doctrine or composing and resolving an equation; with all other rules requisite for understanding that mysterious art, according to the method used by Mr. John Kersey in his incomparable treatise of algebra. Perused, corrected and published by John Hawkins, writing master at St. George's Church in Southwark. Sm. 8vo, calf gilt by F. Bedford. **£12 10 0**
J[ohn] Richardson for Thomas Passinger and Thomas Lacy:
London 1685

⁂ FIRST EDITION. Contains bookplate with motto: "Sub Robore Virtus." Christie Miller copy. R1 torn and mended.

110 **Arithmetic.** JORDANUS NEMORARIUS, and others: ARITHMETICA [with a commentary by Jacobus Faber Stapulensis]. Musica [by Jacobus Faber Stapulensis]. Epitome in libros arithmeticos Boethii [by Jacobus Faber Stapulensis]. Rithmimachiae ludus [by John Shirwood, Bishop of Durham]. Folio, **Gothic letter,** long lines, 72 leaves, mathematical diagrams, one or two small wormholes, a few manuscript notes, modern crushed morocco, gilt, g.e. **£150 0 0**
Johann Higmann and Wolfgang Hopyl: Paris, July 22, 1496

⁂ COLLATION: a—i^8. DESCRIPTION: *a1a*: In doc opere contenta. / Arithmetica decem libris demonstrata / Musica libris demonstrata quattuor / Epitome i libros arithmeticos diui Seuerini Boetij / Rithmimachie ludus q & pugna nueror appellat / G. Gonterius Cabilonensis: in / laude Arithmetices & Musices, *followed* by 9 elegiac couplets; a1*b*: Noua cmentatio in Jordanu per Jacobum fabru stapulesem laborata / ad clarissimum virum Joannem de Ganay presidentem parisiensem; a2*a*: Jordani Nemorarij Clarissimi viri Elementa Arithmetica; cu demostratioibus / Jacobi Fabri Stapulensis: ad Joanne de Ganay Senatore Parisiensem; f1*a*: I / Jacobi Fabri Stapulensis Elementa Musicalia ad clarissimu viru / Nicolaum de haqueuille inquisitorium Presidetem; h7*a*: *blank*; h7*b*: Jacobus Faber Stapulesis Magnifico dno: Joanni Stephano / Ferrerio designato Episcopo Versellensi studiorum amantissimo; h8*a*: Jacobi Fabri Stapulensis Epitome in duos libros Arithmeticos / diui Seuerini Boecii ad Magnificum dnm: Joannem Stephanum / Ferrerium Epis-

MATHEMATICS: ARITHMETIC—*continued.*

copum Versellensem; 16*b*, *line* 23: Jacobus Stapulensis Bernardo Vencario / doctori medico numerorum amatori; 17*a*: Bathilius, Alcmeon, Brontinus; 18*b*, *line* 22: Has duas Quadriuij partes et artium liberalium precipuas atqz duces cum quibusdam amini= / cularijs adiectis: curarunt vna formulis emendatissime mandari ad studiorum vtilitatem Joannes / Higmanus, et Volgangus Hopilius suis grauissimis laboribus & impensis Parhisij anno salutis / domini: qui oia in numero atqz harmonia formauit 1496 absolutuqz reddiderunt eodem anno: die / vicesima secunda Jullij suos labores vbicunqz valebunt semper studiosis deuouentes. Et idem quoqz / facit Dauid Lauxius Brytannus Edinburgensis: vbiqz ex archetypo diligens operis recognitor, *followed by the register.*

Hain-Copinger 9436. Proctor *8137. Not seen by Hain. For facsimiles see Smith: *Rara Arithmetica*, 62-63, and Claudin I, 408, II, 70.

First Edition of Jordanus.

The colophon of this book contains the earliest mention of a Scotsman in the printing trade: the following is a translation: "These two parts of the fourfold subject, both the foremost and chief of the liberal arts, with several aids thrown in, Johann Higmann and Wolfgang Hopil with their own great labour and at their own expense, have been solicitous to set together in type, with extreme accuracy for use in study, at Paris in the year of the salvation of the Lord, who formed all things by number and harmony, 1496, and on the 22nd July of that year completed the work, always devoting their labours wherever they will be serviceable for the benefit of the studious. And this same also does David Lauxius, a Briton of Edinburgh, as the assiduous supervisor of the press throughout from the original."

Jacobus Faber Stapulensis, or Jacques Lefevre d'Etaples, an eminent French scholar and theologian, born at Etaples about 1455. He was condemned as a heretic by the Sorbonne, but was protected by Francis I, who employed him as preceptor to his son. Lefevre produced the first complete French version of the Bible (1530), which is used by the French protestant churches. Erasmus expressed veneration for his character. Died in 1537. The treatise on music appears here for the first time: it is in reality an essay on fractions employing musical terminology.

John Shirwood, Bishop of Durham, M.A., University College, Oxford, 1450; brought Greek authors from Italy; Edward IV's Advocate at Rome; chancellor of Exeter, 1460; Archdeacon of Richmond, 1465; prebendary of York, 1471; partisan of Richard III; Bishop of Durham, 1485-1494; went from Burgundy to Rome, where he died. The *Arithmomachia*, which was originally published in 1482, is the only work of Shirwood which has come down to us. It contains a description of a singular gave on a "tabula," slightly resembling a chess-board, which he says was taught him at Calais by George Neville, Archbishop of York. (D.N.B. xviii, 146).

For further information the reader should consult John Scott's pamphlet (also included in the Edinburgh Bibliographical Society Papers, ——-1891): *The Arithmetica of Jordanus Nemorarius*, 1496.

111 **Arithmetic.** PRINCIPES DE L'ARITHMETIQUE. PRINCIPES DE GEOMETRIE NECESSAIRES A L'ARCHITECTURE MILITAIRE, VULGAIREMENT APPELLEE FORTIFICATION. PRINCIPES DE PERSPECTIVE. Folio, *Manuscript on paper*, about 90 leaves in a running hand, with geometrical designs, old vellum. **£7 0 0** 18*th Cent.*

112 **Arithmetic.** [TAGLIENTE (Girolamo) and Others] OPERA CHE INSEGNA A FARE OGNI RAGIONE DE MERCATIA, et apertegare le Terre con Arte giometrical intitolata, Componimeto di Arithmetica. Con Gratia Preuilegio (*sic*). 12mo ($5\frac{9}{16}$ by $3\frac{7}{8}$ in.), xylographically printed title-page (white on black ground),

MATHEMATICS: ARITHMETIC—*continued.*

woodcut on reverse of title-page (two merchants in a counting-house), numerous woodcuts and diagrams, printed in **Gothic letter,** old vellum, with the bookplate of E. MARION COX. **£23 0 0**
[*Without name of printer*]: *Venice, M.D.XXV.* (1525)

⁂ Collation: A-Z in fours. Description: A1a: Title-page: A1b: full-page woodcut; A2: Al benigno lettore Hieronymo Tagliente; A3a-Z3b: Text; Z4: blank (lacking in this copy). There are two editions dated 1525 one being a close reprint of the other, and both in the same Gothic letter and with the same woodcuts. The similarity and scarcity of these editions is probably the reason why (so far as we are aware) they have never been differentiated. We have not been able to give them a sufficiently close examination to decide which is the earlier, but have provisionally denominated them 1525 (a) 1525 (b). Every page presents some small point of difference, but we have chosen as an easy means of differentiation the woodcut border of signature B3b which in (a) is a border of Arabic knots (white on a black ground) and in (b) a floral border (black on a white ground). The volume described above is of the (a) edition, the edition in the British Museum is (b) (Pressmark 1392, a, 13). According to the British Museum Catalogue Tagliente was assisted by A. Dalla Fantana, and according to Cicogna and Mr. Smith by Giannantonio Tagliente, his relative. According to Cicogna "Il terzo libro contiene una Tariffa di monete e pesi sutili e grossi di Venetia, et come li diti pesci di Venetia sotili e grossi rispondano in molte citta del mondo." Mr. Smith describes the volume: "The book opens with a brief treatment of notation and finger symbols. Then follow in order the multiplication table, the proof of sevens, various methods of multiplication, division by the galley method, addition chiefly of denominate numbers, subtraction, the operations with fractions in the same order, exchange, rule of three, and applied problems. There are numerous interesting woodcuts, and such familiar problems as those of the couriers, the testament, and the sale of eggs are given with illustrations. In spite of the arrangement of topics, there were few text books so influential as this in shaping the subsequent teaching of arithmetic."

Not in the British Museum, Ministero del Tesoro, Elenco Cronologico delle Opere di Computisteria, De Morgan, *Arithmetical Books*, or Panzer. *Annales Typographici.* Riccardi, *Bib. Math. Ital.*, 1, 2, 490. Cicogna, *Bib. Venez.* No. 1511, Smith, *Rara Arithmetica* pp. 114-115.

SEE FACSIMILE FACING PAGE 17.

113 **Arithmetic.** TUNSTALL (Cuthbert) DE ARTE SUPPUTANDI LIBRI QUATUOR, Cutheberti Tonstalli. [Device], 4to (8 by 5½ in.), Roman letter, 259 pp. (a-p 8 q 10), contemporary calf. **£10 10 0** *Robert Estienne*: *Paris, October* 16, 1538

⁂ Cooper, *Ath. Cantab.*, 1, 202, 2. The first edition, printed by Pynson, was the first book on arithmetic published in England. Karslake, *Notes from Sotheby's*, p. 366, speaking of the 1529 edition: "In the preliminary epistle to SIR THOMAS MORE [which also occurs in this edition] Tunstall gives a curious account of the origin of this work. It seems that, in his dealings with certain goldsmiths or silversmiths, he suspected that the accounts were fraudulently prepared, and therefore he made a special study of the forgotten science of his boyhood—arithmetic—in order to be able to check their figures. The result of his labours was a book for his own use, which, on being appointed Bishop of London, he considered worthy of being printed for the use of others." Lowndes, 2719. Allibone, 2473, 2. Watt, 618u. Dict. Nat. Biog., xix, 1241, 1. Brit. Mus. Gen. Cat., "T." xxxix, 192. De Morgan, *Arithmetical books*, p. 13, who, however, does not mention this edition: "This book is a farewell to the sciences, on the author's appointment to the See of London (see the preface): it [the first edition of 1522], was published (that is, the colophon is dated) on the 14th of October, and on the 19th, the consecration took place. This book is decidedly the most classical which ever was written on the subject in Latin, both in purity of style and goodness of matter."

MATHEMATICS—*continued.*

114 **Bibliography.** BEUGHEM (Cornelis van) BIBLIOGRAPHIA MATHEMATICA ET ARTIFICIOSA NOVISSIMA perpetuo continuanda, seu conspectus primus; catalogi librorum mathematicorum, sc., arithmeticorum geometricorum, astronomicorum, geographicorum, opticorum, harmonicorum et mechanicorum. 16mo, old calf. **£2 5 0**
Apud Janssonio-Waesbargios: Amsterdam 1688

115 **Book-Keeping** (Double-entry) MOSCHETTI (Giovanni Antonio) DELL' UNIVERSAL TRATTATO DI LIBRI DOPPII libri tre. Sm. 4to, old vellum. **£2 2 0**
Luca Valentini: Venice, 1610

⁂ B.M., "M.," LXXV, 216.

116 **Calculating Machine.** NAPIER (John, *inventor of logarithms,* 1550-1617) RABDOLOGIAE, seu nuemraticnis per virgulas, libri duo. 16mo, folding plates and woodcuts, modern calf. **£30 0 0**
Andrew Hart: Edinburgh 1617

⁂ FIRST EDITION. MacDonald, p. 131; Cowan, p. 10; Bibliotheca Chemico-Mathematica 3188; Poggendorff II, 253; Hazlitt III, p. 168; Aldis 518; British Museum Catalogue of English Books, pp. 1134-1135; Sayle 5959; Watt 695a; Lowndes, p. 1647; Allibone, p. 1399; D.N.B., xiv, p. 64: "He [Napier] there [in the dedication] stated that he had always endeavoured, according to his strength and ability, to do away with the tediousness of calculations. . . . He explains the title, *Rabdologia,* as 'numeration by little rods.' The rods being usually made of bone or ivory, were familiarly called 'Napier's bones' (cf. Butler, Hudibras, ed. Grey, 1819, III, p. 48). By means of them multiplication and division could be performed by methods which, though now they seem cumbrous enough, were received throughout Europe as a valuable aid to the rule arithmetic of the day. . . . In an appendix he explains another invention for the performance of multiplication and division . . . 'the most expeditious of all'—by means of metal plates arranged in a box. This is the earliest known attempt at the invention of a calculating machine."

"The extraction of square and cube root could also be performed by their help, in conjunction with two larger rods, the method of constructing which is described. . . . There is also added his Local arithmetic, wherein he describes how multiplication and division, and even the extraction of roots, may be performed on a chess board by the movement of counters"; Huth Auction Catalogue 5219; Encyclopaedia Britannica, xix, p. 175: "To Napier seems to be due the first use of the decimal point in arithmetic. Decimal fractions were first introduced by Stevinus, but he used cumbrous exponents (numbers enclosed in circles): thus Stevinus would have written 156.456 as 156 (o) 4 (1) 5 (2) 6 (3)." At p. 21 of this book we have a chapter, "Admonitio pro decimali arithmetica," in which the author recommends the decimal system and suggests the "point" system (here printed as a comma) as more convenient than that of Stevinus. In this chapter he expresses the number 1993 $\frac{273}{1000}$ as 1993.273 "qui significat 1993 integra, et 273 millesimas partes"; Cantor II, p. 723.

John Napier, or Neper, (1550-1617), Laird of Merchiston; inventor of logarithms; son of Sir Archibald Napier, (1534-1608): educated at St. Andrews: infefted in the baronies of Edenbellie-Napier and Merchiston, 1571; entered into a bond for the loyalty of his father-in-law, Sir James Chisholm, 1593; had constant trouble in connection with disputes between his tenants and those of his neighbours, 1591 and 1611-1613; succeeded his father 1608, some family litigation being caused thereby; made valuable experiments in the use of manures, and invented an hydraulic screw for clearing coal-pits of water, for which he was granted a monopoly, 1597.

MATHEMATICS—*continued.*

117 **Calculating Machine.** NAPIER (John) RADDOLOGIA, overo, Arimmetica virgolare in due libri divisa; con appresso un' expeditissimo prontuario della molteplicatione, e poi un libro di Arimmetica locale: quella mirabilmente commoda, anzi utillissima à chi, che tratte numeri alto [etc.]. Tradottore il Cavalier Marco Locatello. 12mo, folding diagrams, contemporary calf with Arms. **£15 0 0** *Angelo Tamo: Verona* 1623

⁂ Bound with another book.

118 **De Morgan** (Augustus) A BUDGET OF PARADOXES, reprinted, with the Author's additions, from the *Athenaeum.* 8vo, half blue morocco, gilt panelled back, t.e.g. **£3 5 0**

Longmans Green and Co.: London 1872

⁂ FIRST EDITION. A book of ingenious puzzles and paradoxes, with the author's thoughts on literary, scientific, and social subjects.

119 **Fletcher** (Abraham, 1714-1793) THE UNIVERSAL MEASURER AND MECHANIC. 8vo, 11 plates, old calf. **10/-**

For G. Robinson and J. Roberts: London 1766

120 **Galtruchius** (P.) MATHEMATICAE TOTIUS INSTITUTIO. 12mo, frontispiece, old calf. **7/6**

J. Field: Cambridge 1668

121 **Geometry.** CAVALIERI (B.) COMPENDIO DELLE REGOLE DE TRIANGOLI, con loro. demostrationi. 16mo, wrapper. **8/-** 1638

122 **Geometry.** DIGGES (Leonard, *Mathematician*) A GEOMETRICAL PRACTICAL / TREATIZE named Pantometria, / diuided into three Bookes, Longimetra, Planimetra, and / Stereometria, containing rules manifolde for mensuration of all Lines, Superfices and Solides: with sundrie strange conclusions both by Instrument and with / out, and also by Glasses to set forth the true Description or exact Platte of an whole / Region. First published by Thomas Digges, Esq., and Dedicated to the Graue, / Wise, and Honourable, Sir Nicholas Bacon, Knight, Lord Keeper of the Great / Seale of England. With a Mathematically discourse of the fine regular / Platonicall Solides, and their Metamorphosis into other fine com- / pound rare Geometricall Bodyes, conteyning an hund- / dred newe Theoremes at least of his owne In- / uention, neuer mentioned before / by anye other Geome- / tricion. / [*Rule*] / Lately Reviewed B. The Avthor / himselfe, and augmented with sundrie Additions, Diffi- / tions, Problemes and rare Theoremes, to open the pas- / sage, and prepare away (*sic*) to the vnderstanding / of his Treatize of Martiall Pyrotechnie / and great artillerie, hereafter to / be published. / [*Woodcut.*] / At London / Printed by Abell Jeffes / Anno. 1591. Sm. Folio, numerous woodcuts, printed in black, Roman and Italic letter, original calf, rebacked. FINE CLEAN UNPRESSED COPY. **£14 0 0**

Abel Jeffes: London 1591

⁂ Klinkowstroem, *Der Erfinder des Teleskops.* Herbert, p. 1162. Wood I,

MATHEMATICS—*continued.*

415. Not in Greener, *Bib. of Gunnery*; or Ronalds, *Bibliography of Magnetism.* THIS BOOK CONTAINS THE EARLIEST KNOWN DESCRIPTION OF THE REFLECTING TELESCOPE and an early description of the theodolite. Klinkowstroem wrote the above paper to draw attention to Digges's claim to the invention. Fledhaus. *Lexikon der Erfindungen* attributed the discovery to Zucchi, who published a description in 1616. The author was born at Barham, Kent, and was educated at Oxford. A—Z, Aa—Cc, in fours.

123 **Geometry.** EUCLIDES. ELEMENTA. A. G. Fournier. 16mo, old calf. **17/6** *E. Story*: *London* 1654

124 **Geometry.** WELPER (Eberhard) ELEMENTA GEOMETRICA. Sm. 4to, title printed in red and black, woodcut initials and ornaments, errata leaf, and 32 copperplates of diagrams, old vellum. **15/-** *Eberhard Welper*: *Strassburg* 1630

⁂ FIRST EDITION. Watt. Bibliotheca Britannica, Vol. II, Col. 957i.

125 **Gunnery.** DOUGLAS (Col. Sir Howard) A TREATISE ON NAVAL GUNNERY. 8vo, five folding engraved plates and two folding tables, original boards, printed label on back. **12/6** *John Murray*: *London* 1820

126 **Leybourn** (William) THE COMPLEAT SURVEYOR, Containing the whole Art of Surveying Land. By the Plaine Table, Theodolite, Circumferentor, Peractor, and other instruments. Small folio, engraved frontispiece of the author at 30 years of age, numerous woodcut diagrams and crude illustrations, autograph of Tho. Bainbrigge on title, contemporary calf. **£3 10 0** *R. and W. Leybourne*: *London* 1657

⁂ Not in Lowndes, who notes "Wm. Leybourn published many other scientific works, all of which are esteemed." The fifth edition appeared in 1722, edited by Samuel Gunn, who says in the preface, "The author of this treatise was frequently employed in surveying, measuring, and mapping gentlemen's estates, as evidently appears from the several draughts by him drawn and to be met with in almost every county in England." D.N.B. XI, 1087 remarks that the author "is said to have begun life as a printer," and it will be noticed that this volume was printed by R. & W. Leybourne. The D.N.B. says his works are "clear and attractive in style."

127 **Logarithms.** CAVALIERI (B.) CENTURIA DI VARII PROBLEMI, per dimostrare l'uso, e la facilità de' logaritmi. 16mo, modern boards, roan label. **£1 1 0** 1639

128 **Logarithms.** GUNTER (Edmund) CANON TRIANGULORUM, sive tabulae sinuum et tangentium artificialium a dradium 10000.0000, et ad scrupula prima quadrantis. [Logarithmorum chilias prima.] 16mo, lacks A1, a blank, a few blank corners defective, old boards, calf back. **£16 0 0** *William Jones*: *London* 1620

⁂ FIRST EDITION. Not in Lowndes; not in Watt; D.N.B., viii, 793: "This [the Canon triangulorum] was the first table of its kind published, and did for sines and tangents, what Briggs did for natural numbers. In these tables Gunter applied to navigation and other branches of mathematics his

MATHEMATICS—*continued.*

admirable rule, 'The Gunter,' on which were inscribed logarithmic lines for numbers, sines and tangents of arches; and he shewed how to take a back observation by the cross staff, whereby the error arising from the excentricity of the eye is avoided" not in Hazlitt; B.M. 744; not in Sayle; not in Poggendorff; Wood II, 405: Gunter was educated at Westminster School; not in Zeitlinger; Bod. Lib. Cat. II, 218: records an edition, 1600; this is probably a misprint for 1620, as Bliss in his edition of Wood cites nothing earlier in the Bodleian Library.

129 **Logarithms.** NORWOOD (Richard) TRIGONOMETRIE: or the doctrine of triangles: divided into two bookes: the first shewing the mensuration of right lined triangles: the second of sphericall: with the grounds and demonstrations thereof. Both performed by that late and excellent invention of logarithmes, after a more easie and compendious manner, than hath been formerly taught. Whereunto is annexed (chiefly for the use of SEAMEN), a treatise of the application thereof in the three principall kindes of saiking; with certaine necessary tables used in navigation. Sm. 4to, 4 ll., 129 pp., 1 p., 90 ll. (including one arrata), original limp vellum, with ties (two missing). FINE UNPRESSED COPY IN THE ORIGINAL STATE. **£38 0 0**

William Jones: *London* 1631

⁂ FIRST EDITION. VERY RARE.

SEE ILLUSTRATION ON PAGE 35.

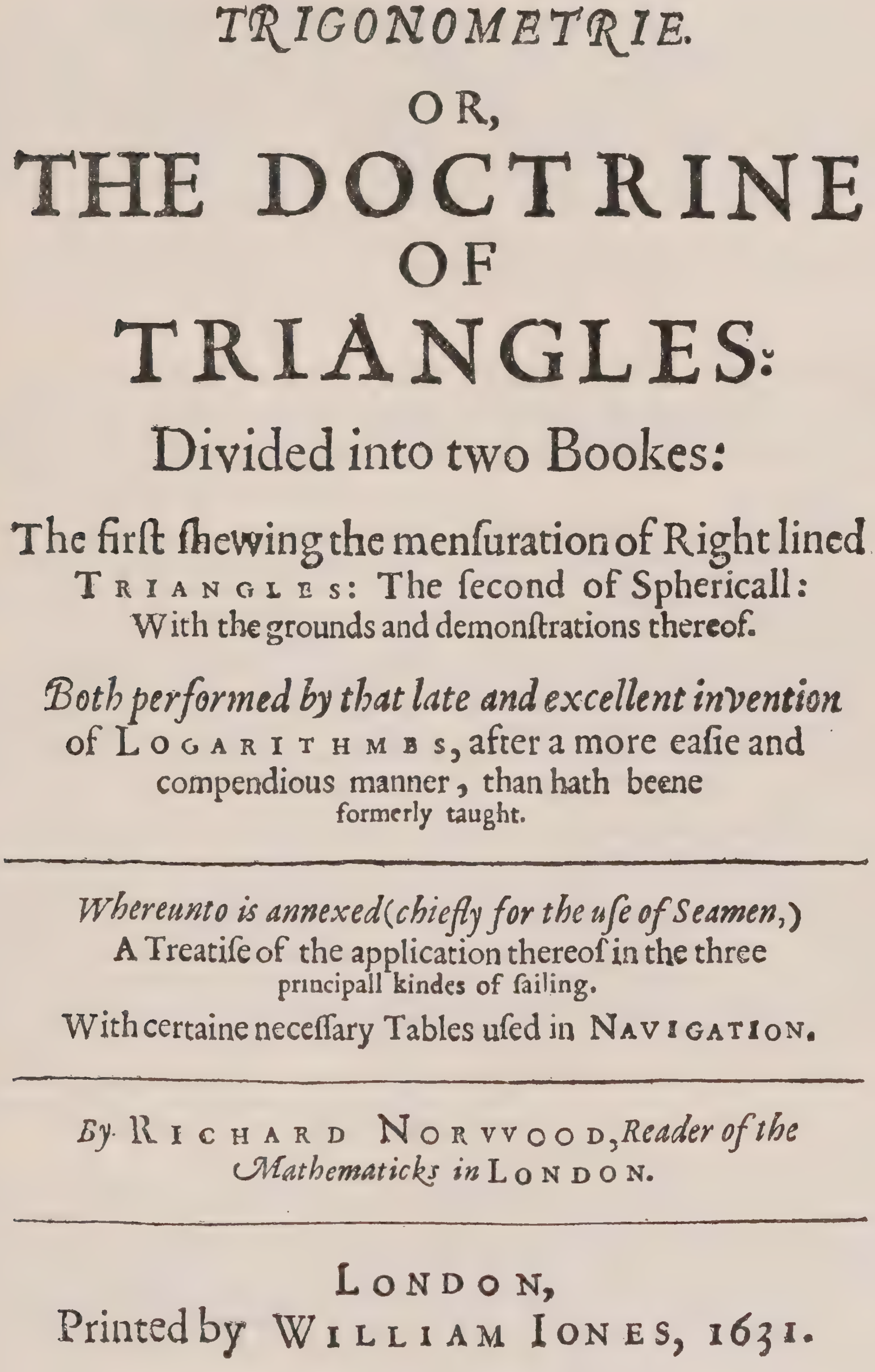
130 **Logarithms.** THE USE OF THE STAFFE, and first for numeracion: The arte of dyallinge on the staffe: The art of dyallings by logarithmes: Decimall chayne. Sm. 4to, manuscript on 26 leaves of paper, numerous diagrams, old boards. **£18 10 0**

[*Writer unknown*] ? *Somerton* [*Somerset*] *c.* 1640

⁂ This manuscript is interesting as shewing the early use of logarithms. There is no indication of the writer but the notes appear to be original and unpublished. The only clue to locality is on the reverse of the 19th leaf, where we have a reference to the latitude of Somerton; this probably being the village in Somerset. With regard to date the writing might be as early as the last decade of the 16th century, but Napier did not publish his work in logarithms until 1614, and they are here referred to as a matter of common knowledge; on the reverse of leaf 17 we have the date 1640 attached to a diagram, and this is very probably about the time the book was written.

Provenance. Eighteenth century bookplate of R. H. Alexander Bennet.

131 **Logarithms.** WINGATE (Edmund) ΛΟΓΑΡΙΘΜΟΤΕΧΝΙΑ: or the construction and use of logarithmeticall tables. 16mo, contemporary limp vellum, gilt, remains of ties, FINE COPY from the Sheppard collection. **£4 5 0** *Miles Flesher*: *London* 1635



TRIGONOMETRIE.

OR,

THE DOCTRINE OF TRIANGLES:

Divided into two Bookes:

The firſt ſhewing the menſuration of Right lined
TRIANGLES: The ſecond of Sphericall:
With the grounds and demonſtrations thereof.

Both performed by that late and excellent invention
of LOGARITHMES, after a more eaſie and
compendious manner, than hath beene
formerly taught.

Whereunto is annexed (chiefly for the uſe of Seamen,)
A Treatiſe of the application thereof in the three
principall kindes of ſailing.
With certaine neceſſary Tables uſed in NAVIGATION.

By RICHARD NORVVOOD, *Reader of the*
Mathematicks in LONDON.

LONDON,
Printed by WILLIAM IONES, 1631.

SEE NO. 129. NORWOOD.

MATHEMATICS—*continued.*

132 **Munster** (Sebastian) RUDIMENTA MATHEMATICA. Haec in duos digeruntur libros, quorum prilor geometriae tradit principia seu prima elementa, una cum rerum et variarum figurarum dimensionibus. Posterior vero omnigenum horologiorum docet delineationes, autore Sebastiano Munstero. [Woodcut.] Folio, numerous mathematical diagrams, device at end, title leaf slightly soiled and frayed, a few stains, old sheep, r.e. **£5 0 0**
Henricus Petrus: Basle, March, 1551

⁂ Lacks a6, a blank leaf.

133 **Newton** (Isaac, *Knight,* 1642-1727) BOYLE (Robert) ESSAYS ON THE STRANGE SUBTILITY, determinate nature, [and] great efficacy of effluviums. 12mo, contemporary calf, in cloth case. **£26 0 0** *W. G. for M. Pitt, London* 1673

⁂ PROVENANCE: Sir Isaac Newton and the Honourable Robert Boyle (Note on title in Boyle's handwriting: "For Mr. Isaac Newton from the author," and on the fly-leaf: "The book binder by mistake hath bound ye discourse of ye great efficacy of effluviums in the wrong place, whereas it should immediately follow ye discourse of ye determinate nature of effluviums.")

The present volume proves a connection between Newton and Boyle, earlier than any noticed by Miss Mason and Mr. Farrington (Newton's most recent biographers). The first occasion noticed by these authorities was the publication of Boyle's *Experimental discourse of quicksilver growing hot with gold*, in the Royal Society Transactions, 1676. Newton had read the paper, and wrote to Oldenberg, the Secretary, a letter in which he says that he felt that "the fingers of many will itch to have knowledge of the preparation of such a mercury; and for that end some may not be wanting to move for the publishing of it, by urging the good it may do in the world. But, in my simple judgment, the noble author, since he has thought fit to reveal himself so far, does prudently in being reserved in the rest"; Newton gave his reasons for doubting this theory for the transmutation of metals: he foreshadowed the "immense damage to the world" that might come from proceeding further with it." "I question not," he says of Boyle's experiments, "but that the great wisdom of the noble author will sway him to silence till he may be resolved of what consequence they may be." It was because Boyle himself seemed "desirous of the sense of others in this point" that Newton had been so free as to "shoot my bolt." Again in 1679 Newton wrote from Cambridge to Boyle in London giving his views on the ether, solution, the atmosphere, and the cause of gravity. In this letter he terms himself "Your most humble servant and honourer."

A facsimile of Boyle's signature will be found in *Signatures of some eminent Fellows of the Royal Society lithographed from the Charter Book.* Privately printed by C. R. Weld, 1851.

Sir Isaac Newton, probably the world's greatest mathematical genius, was educated at Grantham and Cambridge. HE DISCOVERED THE BINOMIAL THEOREM, DIFFERENTIAL CALCULUS, INTEGRAL CALCULUS, COMPUTED THE AREA OF THE HYPERBOLA, AND DEMONSTRATED THE LAW OF UNIVERSAL GRAVITATION, made a reflecting telescope, was elected president of the Royal Society in 1703, and was annually re-elected for twenty-five years.

The Honourable Robert Boyle (1627-1691), son of Richard Boyle, first Earl of Cork, educated at Eton and on the Continent; demonstrated "Boyle's Law" by experimental methods; GOVERNOR OF THE CORPORATION FOR THE SPREAD OF THE GOSPEL IN NEW ENGLAND; a director of the East India Company; took a leading part in founding the Royal Society; founded the Boyle Lectures.

MATHEMATICS—*continued.*

134 **Quadrature of the Circle.** TETRAGONISMUS: id est, circuli quadratura, per Campanum, Archimedem Syracusanum atq; Boetium mathematicae perspicacissimos adinuenta [Cura Lucae Gaurici]. Sm. 4to, Roman letter, large symbolical woodcut on the title-page, and Sessa's "Cat and Mouse" device, also another device below colophon, numerous diagrams and fine Italian woodcut initials, half vellum. **£5 10 0** *J. B. Sessa: Venice* 1503

⁂ The famous and still unsolved problem of the quadrature of the circle is perhaps the sole survivor of the riddles which the greatest intellects of the Middle Ages tried to answer.

135 **Rathbone** (Aaron) THE SURVEYOR. Small folio, some leaves water-stained and a few margins frayed, fine engraved title by WILLIAM HOLE, portrait of Charles I. as Prince of Wales by DELARAM and of the author by SIMON DE PASSE, numerous woodcut diagrams and initials, stained, boards. **£2 2 0**
W. Stansby by W. Burre: London 1616

⁂ Lowndes 2052.

136 **Simpson** (Thomas, 1710-1761) THE DOCTRINE AND APPLICATION OF FLUXIONS. 2 vol., 8vo, old calf. **£1 0 0**
For J. Nourse: London 1750

⁂ D.N.B. XVIII, 279a. The above book was the work of a Spitalfields weaver who studied and taught mathematics in his spare time.

137 **Swymmer** (Anthony) The manner how to alter Bigues of Rope and how to duble any Rope Cable or Mast by The Extraction of the Square Root.—How to builde Shippes by Proportion.—Certaine Questions Arithmeticall concerning the office of the Master of Ordinance, etc.—And other Mathematical and Astronomical Pieces. Original Manuscript of 51 ll., small 4to, very neatly written on paper with carefully drawn diagrams and tables, wrappers. **£5 0 0**
[*circa* 1636]

METEOROLOGY.

138 **Climate.** HUMBOLDT (Baron Al. de) AND BONLAND (A.) Essai sur la Géographie des Plantes; accompagné d'un Tableau Physique des Régions Equinoxiales, fondé sur des mesures exécutées, depuis le dixième degré de latitude boréale jusqu'au dixième degré de latitude australe, pendant les années 1799, 1800, 1801, 1802 et 1803. Imperial 4to, original boards, edges of leaves uncut and unopened. **£1 15 0** *Levrault, Schoell et Cie: Strasbourg,* 1805

139 **Drought.** OERTEL (Gottlob Friedrich) SICCITAS ANNI SUPERIORIS 1766 et aquarum diminutio insolita. Sm. 4to. **10/-**
Carolus Christianus Dürrius: Wittenberg [1767]

⁂ Not in the British Museum. On the unusual DROUGHT of 1766.

METEOROLOGY—*continued.*

140 **Electric Storms.** LICETUS (Fortunius) PYRONARCHA, sive de fulminum natura, deque febrium origine libri duo: in quibus et fulminum in mundo magno, et febrium in mundo parvo caussae naturales omnes, modus originis, idea, propnetates, differentiae ac effectus admirabiles accurate tractantur. Diligenter explicato vetere Grypho Pyronarchae a Coelio Ignato inter flores medicos descripto. Sm. 4to, 4 ll., 126 pp., 6 ll., contemporary limp boards, uncut, some leaves unopened. **£1 10 0** *Crivellarius: Padua* 1634

⁂ Not in Watt or Brunet.

141 **Electric Storms.** WINKLER (Johann Heinrich) DE COMMERCIO LUMINIS BOREALIS CUM ACU MAGNETICA. Sm. 4to. **£3 5 0** *Brietkopf: Leipzig* [1767]

⁂ RARE. Not in the British Museum. An essay on the effect of the aurora borealis on the magnetic needle—a contribution to the literature of MAGNETIC STORMS.

142 **Tempest.** STRANGE NEWS FROM FRANCE, being two letters . . . giving an account of the late extraordinary tempest that lately hapned there [Blois], accompanied with hail-stones as big as a man's fist, whereby two churches and several houses were lamentably beat down, many other lamentably shatter'd, the slates and windows throughout the town batter'd to pieces, and all the corn and vines in eight parishes utterly destroyed; to the damage of two hundred thousand crowns and upwards. Sm. 4to, 8 pp., half calf, padded with blanks. **£3 0 0** *For L. C.: London* 1678

⁂ An interesting meteorological tract.

143 **Weather Forecasting.** MIZAULD (Antoine) PHAENOMENA, sive aeriae ephmerides [*and*] meteorologia, sive rerum aeriarum commentariolus. Two works in 1 vol., 12mo, old calf rebacked, with Arms on side. **£3 15 0**
R. Calderius: Paris 1546-7

⁂ Inscription on title: Ex bibliotheca S. Coucis Parisiensis (*sic*) 1624. An early book on weather forecasting.

PHYSICS.

144 **Air Pump.** BOYLE (Robert, F.R.S., 1627-1691) NEW EXPERIMENTS PHYSICO-MECHANICAL, touching the spring of the air, and its effects, made for the most part in a new pnuematical (*sic*) engine. [A defence of the doctrine touching the spring and weight of the air. . . . against the objections of FRANCISCUS LINUS. Wherewith the objector's funicular hypothesis is also examined. An examen of Mr. T. Hobbs, his *Dialogue physicus de natura aeris* . . . with an appendix touching Mr. Hobb's doctrine of fluidity and firmness. A continuation of new experiments physico-mechanical touching the spring and weight of air . . . whereunto

PHYSICS : AIR PUMP—*continued.*

is annexed a short discourse of the atmospheres of consistent bodies . . . . Divers experiments made both in compressed and also in facitious air, about fire, animals, etc., together with a description of the engines wherein they were made.] Sm. 4to, plates, old calf, rebacked. **£6 0 0** [*Various imprints*] 1660-1682

145 **Descartes** (René) EPISTOLAE. Partim ab auctore Latino sermone conscriptae, partim ex Gallico translatae. Sm. 4to, numerous folding plates, contemporary calf. **£3 5 0**
For John Dunmore and Octavian Pulleyn: London 1668

⁂ Lowndes 632. CONTENTS : MEDICINE : on a certain disease : light : gravitation : UNIVERSAL LANGUAGE : Rainbow : Henry More, the Platonist : CIRCULATION OF THE BLOOD : gangrene : velocity of light : planetary motion : reflecting telescopes : VARIATION OF MAGNETIC DECLINATION : tides : the velocity of projectiles : refraction : On the valves of the heart : the transformation of chemical elements : etc., etc.

PROVENANCE : Mary Hamilton Nisbet Ferguson (Bookplate : Franks 10387).

146 **Descartes** (R.) OPERA PHILOSOPHICA . . . Nunc demum hac editione diligenter recognita, et mendis expurgata. Sm. 4to, portrait and diagrams, title and first sub-title slightly slit, old calf. **£2 0 0** [*Daniel Elzevir: Amsterdam* 1677-1678]

⁂ SIXTH EDITION. Willems, p. 256. The copy described by Willems is bound up differently. CONTENTS : Meditationes de prima philosophia, etc. : Epistola ad . . . Gisbertum Voetium : Principia philosophiae : DISSERTATIO DE METHODO : Dioptrice : Meteora : Tractatus de passionibus animae.

147 **Deusing** (Anton) DISQUISITIO PHYSICOMATHEMATICA Gemina, De Vacuo, Itemque De Attractione quibus probatur, nullum in Rerum Natura dari vel posse dari Vacuum ; ipsaque Experimenta variorum, provacuo probando hactenus afferri solita, expenduntur ac refelluntur ; ostenditurque non Pulsione duntaxat, sed et Tractione in Rerum Natura fieri motum. *Petrus van den Berge : Amsterdam* 1661. [Poggendorf. *Biog. Lit. Handwörterb. z. Gesch. d. exacten. Wissenschaften.* I. 565] DEUSING (A.) OECONOMUS CORPORIS ANIMALIS : ac Speciatim De Ortu Animae Humanae Dissertatio. In qua demonstratur, non esse Homini simplicitur impossibile, per naturale Intellectus Lumen seipsum nosse. *Johann Coellen : Groeningen,* 1661. [Watt 300 *n*] 2 works in 1 vol., contemporary English blind panelled calf. FINE COPY. **£2 0 0** 1661

⁂ FIRST EDITION. Chapters on the thermometer, barometer, in the first essay.

148 **Electricity.** GILBERT (William) GUILIELMI GILBERTI COLCESTRENSIS MEDICI LONDINENSIS, DE MAGNETE, magneticisque corporibus, et de magno magnete tellure : physiologia nova, plurimis et argumentis et experimentis demonstrata. [Device. See Bib. Soc. Trans. IV. 104. Facsimile of title-page ; see plate in Zeitlinger at I. 78.] Folio ($11\frac{7}{16}$ by $7\frac{9}{16}$ in.), the Author's Arms on the reverse of the title-page, ornamental woodcut initial letters, wood-

PHYSICS: ELECTRICITY—*continued.*

cut printer's ornaments, woodcut diagrams, 8 ll., 240 pp., (* 8 A-V6), one folding plate. FINE, UNPRESSED AND EXTRAORDINARILY TALL COPY. New polished calf, old red morocco label on back.
£48 0 0 *Peter Short*: *London* 1600

⁂ FIRST EDITION. D.N.B., vi, 1217: "THE FIRST GREAT PHYSICAL BOOK PUBLISHED IN ENGLAND, and [which] has fulfilled for its author Dryden's prophecy:—

'Gilbert shall live till loadstones cease to draw.'

His merit was immediately recognised both in England and on the Continent, where he won eulogy from Galileo. Bacon mentions Gilbert with respect in the *Novum Organum* (ed. Leyden, 1650, pp. 263-265, and elsewhere). The author has worked at his subject many years, revising and experimenting. He begins by a summary of existing knowledge about the magnet exactly resembling the commencement of a modern scientific essay. The next part is characteristic of his own time, and is an account of the names of the loadstone, and their etymology. The remainder is an investigation of the properties of the magnet, illustrated by diagrams and relating numerous experiments. The attraction of the magnet, its direction in relation to the poles of the earth, its variation and declination, are treated in separate divisions. He does not neglect to point out the practical bearing of these points in navigation, and how the declination may be used in discovering the latitude at sea. His general conclusion is that the phenomena of magnetism are explained by regarding the earth as one vast spherical magnet."

Camb. Hist. of Eng. Lit., IV, 277-8: "His work contains a series of carefully graduated experiments, each one of which is devised so as to answer a particular question, while the simpler and more obvious facts are set forth first, and their investigation led by orderly stages to that of the more complex and subtle. . . . Gilbert has been called 'the first real physicist and THE FIRST TRUSTWORTHY METHODICAL EXPERIMENTER [K. Lasswitz, Gesch. d. Atomistik, I, p. 315] . . . In his discussion of the attraction of bodies there is A SUGGESTION OF THE DOCTRINE OF UNIVERSAL GRAVITATION. He had also reached A CORRECT VIEW OF THE ATMOSPHERE AS EXTENDING ONLY A FEW MILES FROM THE SURFACE OF THE EARTH, with nothing but empty space beyond." Encyc. Brit., xii, 9, and xvii, 352: "He also carried out some new experiments on the effects of heat, and of screening by magnetic substances, and investigated the influence of shape upon the magnetization of iron. But the bulk of his work consisted in imparting scientific definiteness to what was already vaguely known, and in demolishing the errors of his predecessors. NO MATERIAL ADVANCE UPON THE KNOWLEDGE RECORDED IN GILBERT'S BOOK WAS MADE UNTIL THE ESTABLISHMENT BY COULOMB IN 1785 OF THE LAW OF MAGNETIC ACTION."

Zeitlinger, 1526-7, and 8399-40: Mr. Zeitlinger describes a copy measuring $11\frac{3}{16}$-in. as "unusually tall"—it will be seen above that the present copy measures $11\frac{7}{16}$-in.—"Prof. Silvanus Thompson, F.R.S., writing on the work in the *Electrician* of March 24, 1905, says: 'THIS BOOK IS MUCH RARER THAN THE FIRST FOLIO SHAKESPEARE, for while of that work there are no fewer than 156 copies known to exist, there are only 68 copies of the first folio Gilbert known, and ONLY TWO HAVE BEEN SOLD IN THE BOOK AUCTIONS DURING THE LAST TWENTY YEARS.' . . . [He] conjectured that TERRESTRIAL MAGNETISM AND ELECTRICITY WERE TWO ALLIED EMANATIONS OF A SINGLE FORCE—a view which was only demonstrated with scientific strictness two centuries afterwards by Oersted and Faraday. . . . He describes how to measure the excited electricity [produced by rubbing amber, etc.] by means of an iron needle moving freely on a point [the ELECTROSCOPE]."

Bib. Soc. Trans., IV, 103-128 (Prof. Silvanus P. Thompson): "The work prized by all electricians and lovers of science, as not only embodying the first

PHYSICS: ELECTRICITY—*continued.*

theory of the earth's magnetism, but as being THE VERY FOUNDATION STONE OF THE SCIENCE OF ELECTRICITY."

Herbert, 1210: "On the back [of the title-page] are the author's arms." Hallam, Lit. of Europe, II, p. 287, para. 22: "Gilbert was also one of our earliest Copernicans, at least as to the rotation of the earth, and, with his usual sagacity, inferred, before the invention of he telescope, that there must be a multitude of fixed stars beyond the reach of our vision. . . . Gilbert's argument for the diurnal motion could be extended to the annual: 'Non probabilis modo sed manifesta videtur terrae diurna circumvolutio, cum natura semper agit per pauciora magis quam plura, atque rationi magis consentaneum videtur unum exiguum corpus telluris diurnam volutationem efficere quam mundum totum circumferri.'"

SEE ILLUSTRATION ON FRONT COVER.

149 **Electricity.** KIRCHER (Athanasius) MAGNES: sive, De Arte Magnetica, quo praeterquam quod Universa Magnetis Natura, ejusque in omnibus Artibus et Scientiis Usus nova methodo explicetur, è viribus quoque et prodigiosis effectibus magneticarum, aliarumque abditarum naturae motionum in Elementis, Lapidibus, Plantis et Animalibus elucescentium, multa huscusque incognita Naturae Arcana per physica, medica, chymica, et mathematica omnis Generis Experimenta recluduntur. Sm. 4to, engraved frontispiece, consisting of an heraldic device and a view of Cologne (?), numerous interesting woodcuts and plates, some folding, old citron morocco, gilt 3-fillet borders on sides, full gilt back, gilt interior borders, FINE COPY, *rare.* **£4 10 0**
Jodocus Kalcoven: *Cologne* 1643

⁂ [28] + 797 + [37 pp.] = 431 leaves. "Ce traité du magnétisme contient beaucoup de choses frivoles. On trouve, livre iii, la figure de la tarentule, avec les airs [i.e. charms with words and musical notation] qu'on croyait propres à guérir la morsure de cet insecte." Biographie Universelle xxii, 441.

150 **Electricity.** LAPOSTOLLE (—) TRAITE DES PARAFOUDRES et des Paragrêles en cordes de paille, précédé d'une météorologie électrique, présentée sous un nouveau jour, et terminée par l'analyse de la bouteille de Leyde. 8vo, LITHOGRAPHIC folding plate showing a town protected by lightning-conductors. In a contemporary binding of red morocco, foreign Royal Arms on sides (spread eagle bearing a shield with initials "G.F." within gold border on sides, gilt back, g.e. **£4 0 0** *Caron-Vitet*: *Amiens* 1820

⁂ A rare and early work on lightning-conductors, etc.

151 **Light.** BOYLE (Robert) EXPERIMENTS AND CONSIDERATIONS TOUCHING COLOURS. 12mo, folding plate, contemporary sheep. FINE COPY. **£2 5 0**
For Henry Herringman: *London* 1664

⁂ Watt 142*r*. PROVENANCE: John Hope, November 1666 (inscription) and Earl Hope, Hopetoun (Bookplate. Franks 15273/4).

152 **Lucretius Carus** (Titus) DE RERUM NATURA libri Sex, ad Postremam Oberti Gifanii Ic. emendationem accuratissime restituti. Plantin device on title. 8vo, vellum, a trifle soiled. **15/-**
Franciscus Raphelengius: *Lugduni Batavorum* 1595

⁂ Contains a vague conception of the atomic theory.

PHYSICS—*continued.*

153 **Lucretus Carus** (Titus) DE RERUM NATURA LIBRI SEX. 12mo, "Solitaire" device on title, engraved headpieces, frontispiece and five plates (should be six) by DUFLOS, red morocco, triple gold lines on sides, gilt back, g.e., by LARKINS. **15/-**
J. Barbou: Paris 1754

*** Cohen-De Ricci 664, "Très jolies figures."

154 **Lucretius Carus** (Titus) DELLA NATURA DELLE COSE LIBRI SEI. Tradotte dal Latino in Italiano da Alessandro Marchetti. 8vo, engraved titles, frontispieces, plates and vignettes by LE MIRE, SORNIQUE, etc., after EISEN, COCHIN, etc.; 2 vol. in 1, red crushed morocco, gilt line borders and blind panels on sides, gilt edges of boards and inside dentelles, gilt back, g.e., gilt star end papers, FINE LARGE COPY. **£12 0 0**
In Amsterdamo ä Spese dell' Editore [*Paris*] 1754

*** [4] + 543 pp. + 2 title-pages + 2 fronts. + 6 plates. Cohen-De-Ricci, 665-666. "Les illustrations de ce livre sont fort belles." This copy is on "papier de Hollande."

155 **Lucretius Carus** (Titus) RE RERUM NATURA libri sex. 12mo, some Greek on verso of M, and recto of M2, contemporary speckled calf, gilt back. **£1 18 0**
Typis Joannis Baskerville: Birminghamiae 1773

*** Straus and Dent 104, but they do not note the inaccurate pagination, which runs to 214 only, for 220 pages of text, thus: 1—131, 128—214.

156 **Microscopy.** BAKER (Henry) THE MICROSCOPE MADE EASY: or, I. The Nature, Uses, and Magnifying Powers of the best kinds of Microscopes Described, Calculated, and Explained...... II., An Account of what surprizing Discoveries have already been made by the Microscope [etc.]. 8vo, fourteen engraved plates, some folding, old calf. **10/-** *R. Dodsley: London* 1742

157 **Microscopy.** HOOKE (Robert) MICROGRAPHIA: or some physiological descriptions of minute bodies made by magnifying glasses. Folio, folding plates (a few slightly torn), old calf, rejointed, FINE COPY. **£9 0 0** *For James Allestry: London* 1667

*** COLLATION: [2 ff] A a-g B-C^2 D-Kk^4 Ll-Mm^2 = [18] ff. + 246 pp. + 5 ff. + 38 plates.

FIRST EDITION, second issue. Lowndes, p. 1106. There are two issues of the first edition: (1) Title dated 1665; (2) dated 1667.

AN IMPORTANT BOOK IN THE HISTORY OF CHEMISTRY, as it contains the earliest correct conception of the process of COMBUSTION. The definition of HEAT is also a remarkable approximation to the modern conception; it is described as a "property of a body arising from the motion or agitation of its parts. His theory of LIGHT is that it is "a very short vibrative motion" transverse to straight lines of propagation through a homogeneous medium. PROVENANCE: Sir Joseph Copley, Bart. (Armorial Bookplate. Franks 6836.)

PHYSICS—*continued.*

158 **Microscopy.** HOOKE (Robert) MICROGRAPHIA RESTAURATA: or, the copper-plates of Dr. Hooke's wonderful discoveries by the microscope, reprinted and fully explained; whereby the most valuable particulars in that celebrated author's *Micrographia* are brought together in a narrow compass; and intermixed, occasionally, with many entertaining and instructive discoveries and observations in natural history. Folio, 2 ll., 66 pp., 2 ll., 33 plates (3 folding), old calf. **£4 10 0**

For John Bowles, R. Dodsley, and John Cuff: London 1745

159 **Newton.** MARTIN (B.) A PLAIN AND FAMILIAR INTRODUCTION to the Newtonian philosophy. Sm. 8vo, numerous folding diagrams, wrapper. **10/-**

J. Owen: London 1754

160 **Electricity.** NOLLET (Jean Antoine) ESSAI SUR L'ELECTRICITE DES CORPS. 12mo, five plates, some folding, some leaves wormed, original marbled wrappers, uncut. **£1 0 0**

Gurin frères: Paris 1746

⁂ FIRST EDITION. Jöcher-Adelung, v. 788. Not in Brunet; the earliest edition quoted by the Nouvelle Biographie Générale is that of 1747, and the earliest by the Biographie Universelle, 1750. Jöches gives 218 pp.: this copy has 228.

161 **Light.** MAERKLIN (Johann Friedrich) DISPUTATIO PHYSICA DE INTENSITATE LUCIS. Sm. 4to **10/-**

Erhard: Tubingen [1754]

⁂ Not in the British Museum.

162 **Newton.** GRAVESANDE (W. James) MATHEMATICAL ELEMENTS OF NATURAL PHILOSOPHY, confirmed by Experiments: Or an Introduction to Sir Isaac Newton's Philosophy. Written in Latin by W. James Gravesande. Translated into English by J. T. Desaguliers. 2 vol., 4to, sixth edition greatly improved by the author, and illustrated with 127 copper-plates, all new engraven, contemporary mottled calf, gilt, with the bookplate of Sir George Shuckburgh, Bart. **18/-** *W. Innys [etc.]: London* 1747

163 **Newton.** [ALGAROTTI (Francesco)] IL NEWTONIANISMO PER LE DAME, overo, Dialoghi sopra la luce e i colori. 4to ($8\frac{5}{8}$ by $6\frac{3}{16}$ in.), frontispiece, by Marco Pitteri [Bryan, vol. 4, p. 130], after G. B. Piazzetta [Bryan, vol. 4, p. 112]. Contemporary vellum. FINE COPY. **£1 0 0** *Naples* 1737

⁂ FIRST EDITION. Gray. *Bib. of Newton.* No. 197. This book illustrates Newton's optics. Hypotheses in relation to light and colour: sight: confutation of Descartes's theory: Newton's Law of Gravitation.

PHYSICS—*continued.*

164 **Novellino** (Philippus de) ELEMENTA PHYLOSOPHIAE (*sic*) CARTESIANAE. Sm. 4to, UNPUBLISHED MANUSCRIPT on paper, about 400 pages, written in a running hand, with diagrams, old vellum. **£1 5 0** 1730

⁂ Chapters on Rarefaction and Condensation, Vacuum, Fossils, Magnet, Spontaneous Generation, etc., etc.

165 **Optics.** [WALKER (O.)] PROPOSITIONS CONCERNING OPTIC-GLASSES, with their natural reasons, drawn from experiments. Sm. 4to, vignette *of Sheldonian Theatre* on title-page, small hole in title-page, diagrams, wrapper. **18/=**
[*University Press*] *At the Theater*: *Oxford* 1679

166 **Porta** (Joh. Bapt.) MAGIAE NATURALIS LIBRI VIGINTI. 12mo, curious engraved frontispiece and a large number of woodcuts in the text, contemporary vellum. **£2 0 0**
P. Leffen: *Leyden* 1651

⁂ "Parmi beaucoup de faits puérils et de secrets ridicules . . . on y trouve une foule d'observations intéressantes sur la lumière, les miroirs, les lunettes, dont Porta a perfectionné la fabrication; sur les feux d'artifice, la statique, la mécanique, etc."—Biog. Univ.

167 **Porta** (J. B.) DEI MIRACOLI ET MARAVIGLIOSI effetti dalla natura prodotti libri IIII. Sm. 8vo, device on title, Italic letter, original limp vellum, some leaves slightly browned. **£1 2 6**
Valerio Bonelli: *Venetia* 1579

168 **Transparency.** ABRAHAM (Johann Friedrich) DISSERTATIO PHYSICA DE CAUSSA PELLUCIDITATIS. Sm. 4to, **£1 5 0** *Hendel*: *Halle* [1744]

⁂ Not in the British Museum or Bibliothèque Nationale Catalogue. On TRANSPARENCY and its cause.

Printed for JAMES TREGASKIS & SON (Eveline B. Tregaskis and Hugh F. B. Tregaskis), and Published by them at their House at the Sign of the "Caxton Head," 66, Great Russell Street, in the Parish of St. George, Bloomsbury, London, W.C.1.

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